Chisholm Aurora S500

SVGA LCD Projector

REFERENCE MANUAL

Safety Precautions

WARNING: *To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture. Dangerous high voltages are present inside the enclosure. Do not open the case. Refer servicing to qualified personnel only.*

FCC STATEMENT: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

CANADIAN DEPARTMENT OF COMMUNICATIONS STATEMENT: This digital apparatus complies with the Class A limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

IMPORTANT PRECAUTIONS

Save Original Packing Materials
The original shipping carton and packing materials will come in handy if you ever have to ship your *Projector*. For maximum protection, repack the set as it was originally packed at the factory.

Avoid Volatile Liquid
Do not use volatile liquids, such as an insect spray, near the unit.

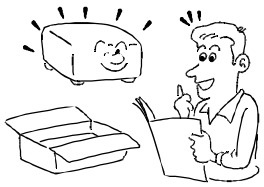
Moisture Condensation
Never operate this unit immediately after moving it from a cold location to a warm location. When the unit is exposed to such a change in temperature, moisture may condense on the crucial internal parts. To prevent the unit from possible damage, do not use the unit for at least 2 hours when there is an extreme or sudden change in temperature.

CAUTION: *Please read and observe all warnings and instructions given in this owner's manual and those marked on the unit. Retain this booklet for future reference.*

This unit has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. With exception of the *Lamp,* this unit is fully transistorized and does not contain any parts that can be repaired by the user.

CAUTION: *Do not remove the cabinet cover, or you may be exposed to dangerous voltage. Refer servicing to qualified service personnel only.*

1. Read Owner's Manual

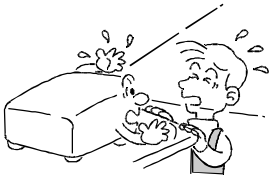


After unpacking this product, read the owner's manual carefully, and follow all the operating and other instructions.

2. Power Sources

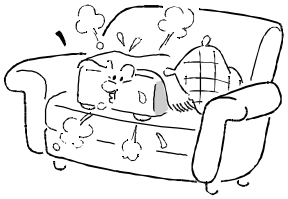
This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power or other sources, refer to the operating instructions.

3. Source of Light



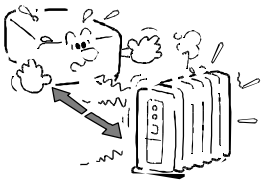
Do not look into the lens while the lamp is on. The strong light from the lamp may cause damage to your eyes or sight.

4. Ventilation



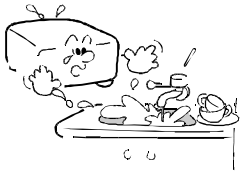
Openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

5. Heat



The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

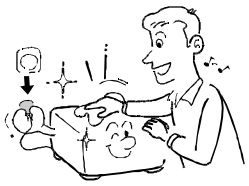
6. Water and Moisture



Do not use this product near water - for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool and the like.

7. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

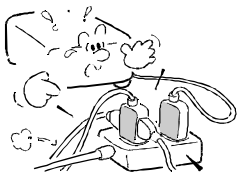


8. Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

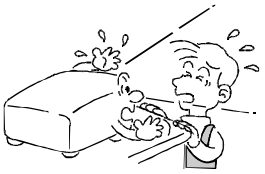
9. Overloading

Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.



10. Lightning

For added protection for this product during storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.



11. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

12. Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

13. Mounting and Transport

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

14. Damage Requiring Service

Unplug the projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance indicating a need for service.

15. Servicing

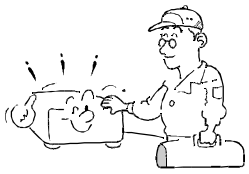
With the exception of *Lamp* replacement an air filter cleaning, do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel.

16. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards. The *Lamp* is user replaceable.

17. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.



***TRADEMARK NOTE**: Trademarks appearing in this reference manual are trademarks or registered trademarks of their respective companies.*

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INTRODUCTION

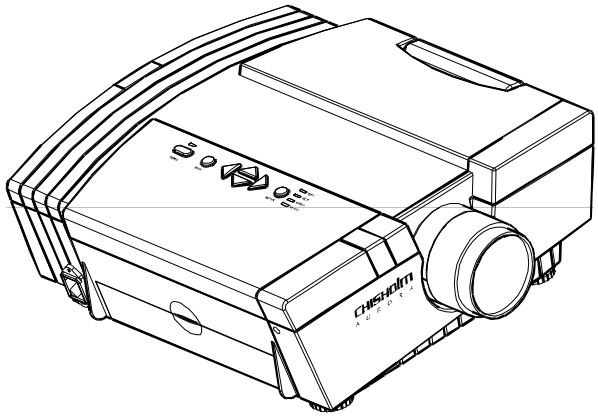
Thank you for selecting the ***Aurora Projector***. Our goal is to bring you innovative products of superior quality and performance. We welcome your comments. This *Owner's Manual* describes the operation of the ***Aurora*** and it's optional ***Annotation*** devices, ***WritingPad*** and ***PenPal***. If you need assistance, contact us at the number displayed when the Aurora is first powered on or at the number printed on the back cover of this *Owner's Manual*.

The ***Projector*** uses high-resolution polysilicon display technology and is capable of displaying up to 16.7 million colors. ***Aurora*** will produce a bright high quality image. For best performance use a high quality projection screen and reduce the ambient room light.

The ***Aurora*** is available in three models:

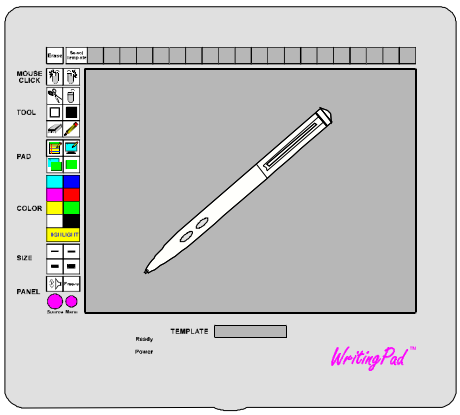
- Model S500 Data and Video ***Projector***
- Model S500P Data and Video ***Projector*** with ***PenPal Annotation*** option
- Model S500W Data and Video ***Projector*** with ***WritingPad Annotation*** option

Features



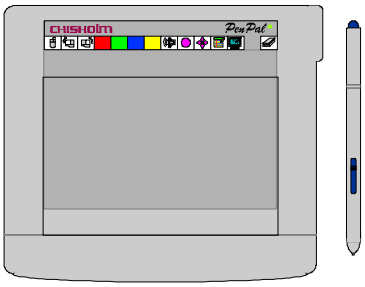
- Uniformly bright high-quality picture
- High-density, high-quality video for multimedia
- Compact and lightweight for portability
- Image inversion and reversal for front or rear projection from the floor or ceiling
- Large-screen image up to 300 inches diagonally
- ***Projector*** keypad controls
- Wireless *Remote Control* for presentation, computer mouse, and ***Projector*** control
- On-screen menus for easy adjustments
- Concurrent computer monitor support
- Easy connect cables
- Automatic detection of fan failure
- Built-in 12 watt stereo speaker system
- Mac and PC compatible (VGA, SVGA, XGA)
- Video and S-Video input (DVD, laserdisc, VCR, or CD-ROM)
- Up to 2 selectable data inputs and 4 selectable video inputs
- 4 stereo audio inputs and 1 switched stereo audio output
- On-screen menu control from the ***Projector***, *Remote Control* or ***Annotation*** option
- Automatic power management for saving energy
- Universal power supply

The ***Annotation*** option is available in two versions: 1) ***WritingPad*** and 2) ***PenPal.*** The ***WritingPad*** option includes a large writing *Tablet*, a Pen, and a set of icon templates that allow you to do the following:



- Draw or write in any of 8 colors and 4 line weights
- Highlight information
- Erase
- Draw and move boxes, frames and icons
- Write on video or a notepad
- Select and use 60 icons from 3 icon libraries
- Use the *Pen* as a Microsoft mouse (Macintosh Mouse Adapter is available as an accessory)
- Quickly access frequently used features
- Control the ***Projector***
- Turn the sound off and on
- Freeze and unfreeze the projected image
- Control notepad color and *Pen* button features

The ***PenPal Annotation*** option includes a small writing *Tablet* and *Pen* and allows you to do the following:



- Write in four colors with pressure sensitive line weights
- Erase
- Control the ***Projector***
- Use the *Pen* as a Microsoft mouse (Macintosh Mouse Adapter is available as an accessory)
- Turn the sound off and on
- Write on video or a notepad

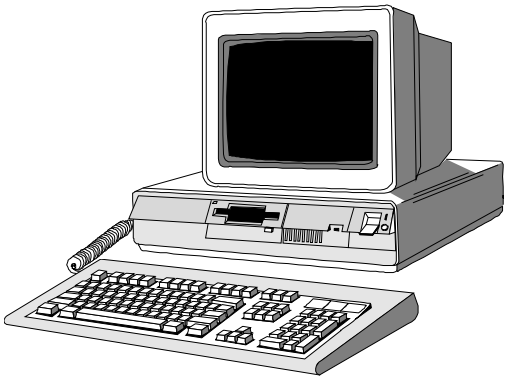
Additional accessories that may be purchased separately include:

- Macintosh Mouse Adapter
- ***Annotation*** devices
- 25-foot ***Annotation*** extension cable
- Variety of Ceiling Mounts
- Variety of Carry and Travel Cases

Getting Started

The ***Projector*** is simple to use. Plug it into a computer, a VCR, a DVD, a laserdisc, a camera, or any device that provides RGB, S-Video or composite output. You may also attach any audio line output that is available from those devices. When attached to a compatible video and audio source, the ***Projector*** will deliver a high quality video and audio experience.

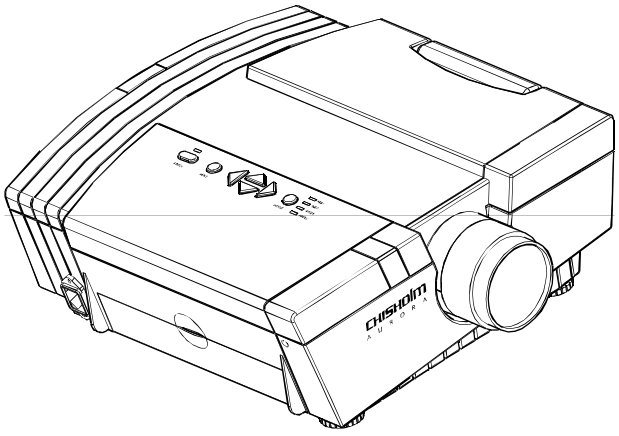
If you are using a computer, the ***Projector*** plugs directly into the same computer connector used by your computer monitor. Your computer monitor may also be connected to the ***Projector*** for simultaneous viewing***.***



If you need to make adjustments to the ***Projector***, this can be done from the ***Projector*** keypad, the *Remote Control*, or the ***Annotation*** option. Any adjustments to the video mode you are using are automatically saved.

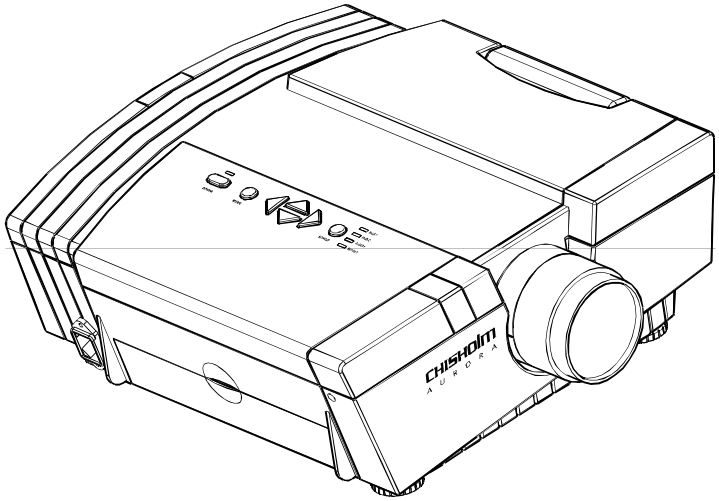
The keypad for operating the ***Projector*** is located on top of the ***Projector*** and connectors for attaching various devices are located on the side. IR (infrared) lenses are located on the front and back of the ***Projector*** and are used to receive input from the *Remote Control*. The 12-watt stereo speaker system is located on the back of the ***Projector*** (away from the projected image).

The cables provided are labeled for easy connection. The cable names correspond to the name on the side of the ***Projector***. Match the ***Projector*** cables to the connectors on the side of the ***Projector***. For example, the *PC* or *Mac RGB* cable may be connected to either *RGB 1* or *RGB 2*. Connect only those cables that are needed for your application.



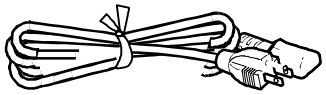
Unpacking

Unpack the shipping container. Inspect the contents to ensure that you have all the pieces identified below. If anything is missing, please contact your dealer or call us directly.

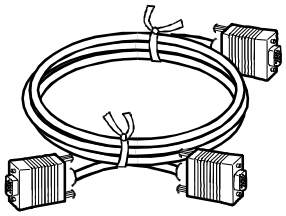


Projector

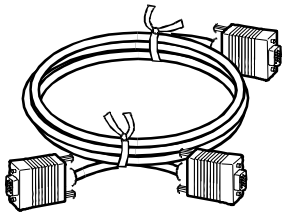
Remote Control



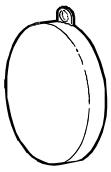
Power Cord



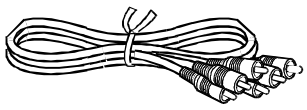
PC Y Cable



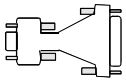
Mac Y Cable



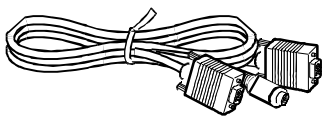
Lens Cover



Audio/Video Cable



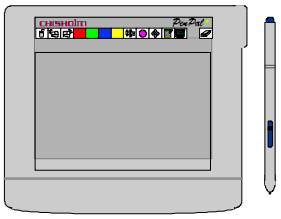
Serial Adapter



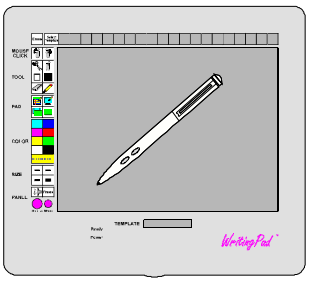
Mouse Cable

Annotation Options

PenPal



WritingPad

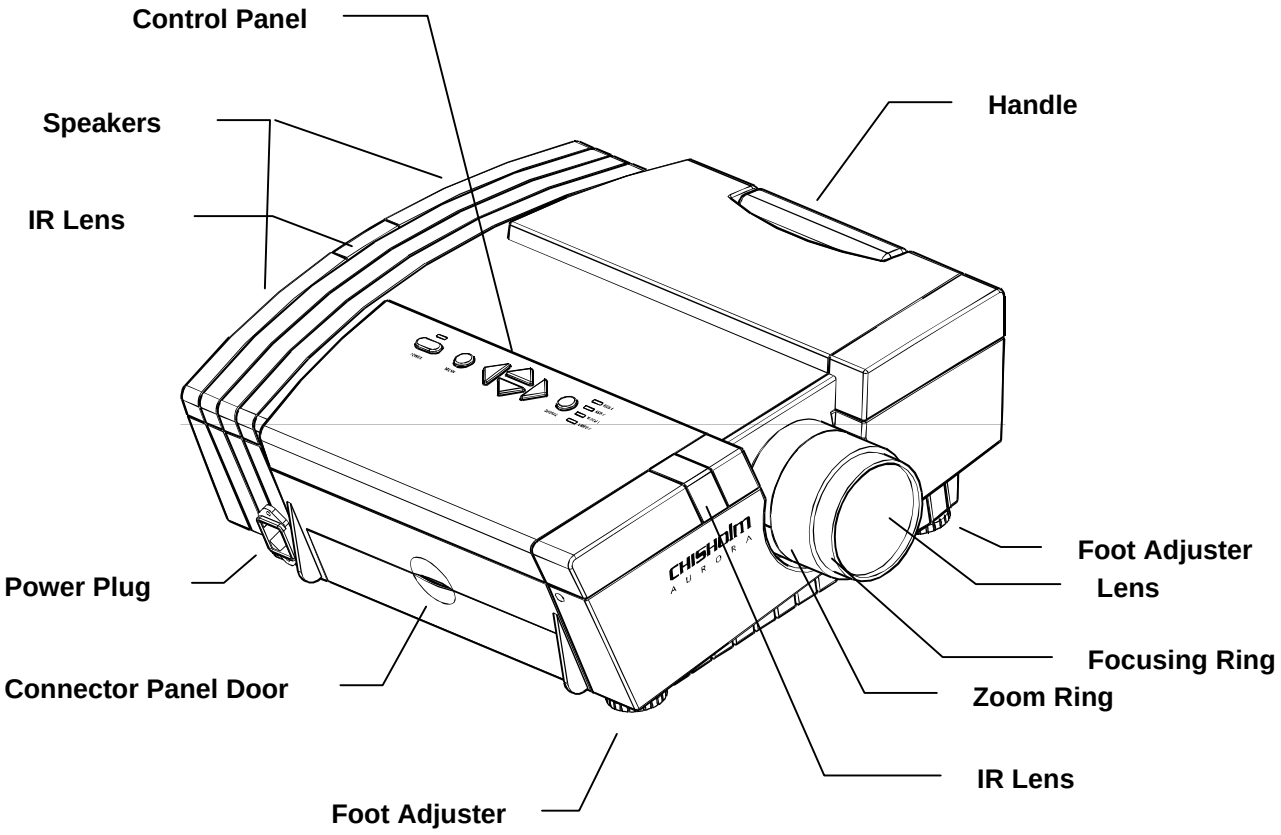


The ***Annotation*** option will be included only if you purchased a model that includes this feature. If anything is missing, contact your service representative or call the number displayed on the ***Projector*** when it is powered on. If anything is damaged, call the freight company and keep the packaging to ensure a proper claim with the freight company.

Setup

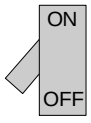
1. Get Acquainted

Familiarize yourself with the features of the ***Projector***.



2. Power Down

Turn off any equipment you intend to connect to the Projector.

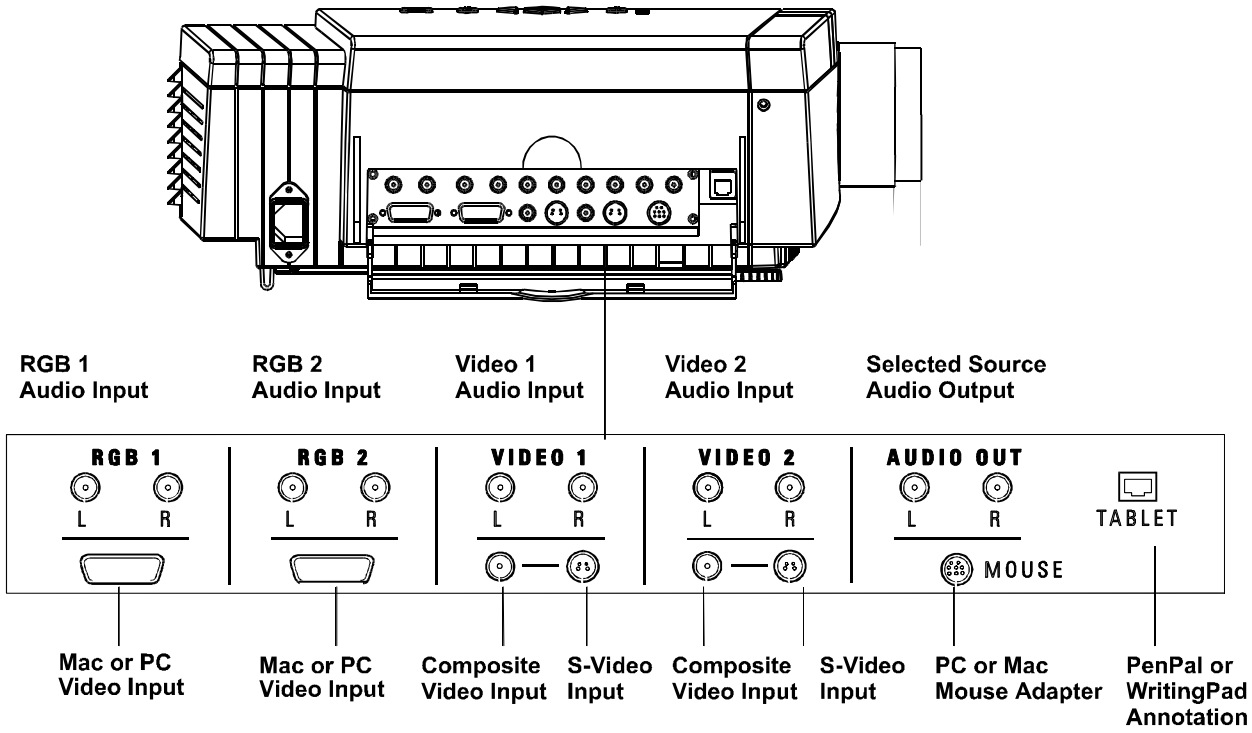


3. Find a Location

Establish a location for the ***Projector*** that is clear of debris, provides adequate ventilation, and provides the throw distance image size required for your needs (see the *Installation* section for determining image size and throw distance required).

4. Connector Panel

Open the *Connector Panel Door* and familiarize yourself with the *Connector Panel*.



5. Disconnect Your Monitor

The ***Projector*** uses your computer monitor port. To connect your computer, first disconnect your computer monitor. If you are using a notebook computer, identify your external monitor connector and make sure your video output is enabled (see your notebook manual).

6. Connect Your Computer

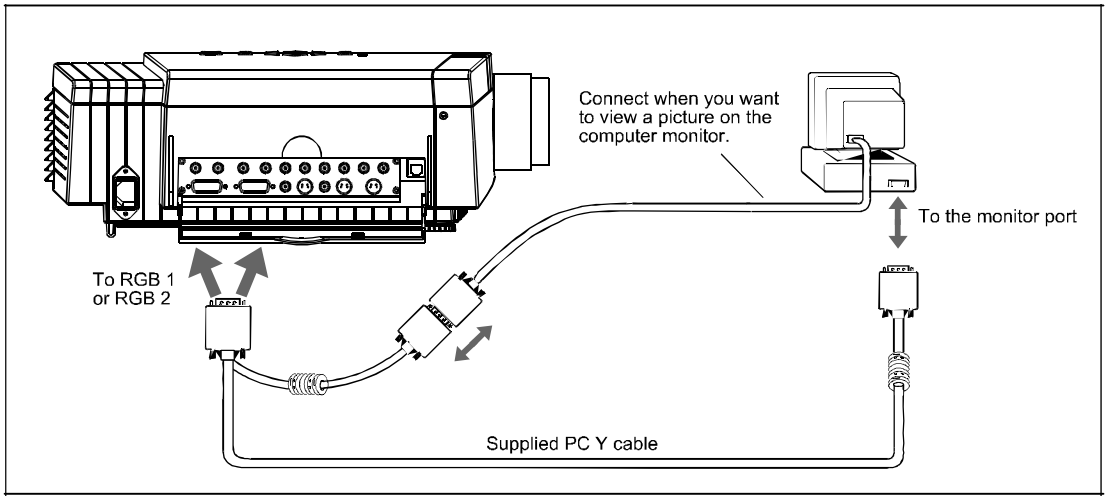
Next, select the appropriate *RGB* cable (*PC* or *Mac*) that fits your computer. If your computer provides an audio output, you may also connect it to the corresponding audio input connectors associated with the RGB connection.

NOTE: *You may attach as many as two computers and select between them. A cable has been provided for a PC and a Mac. Additional cables may be purchased separately.*

To use your computer monitor concurrently, plug it into the short Y cable connector of your selected RGB video cable. If you need additional distance for your monitor, a 9-foot extension cable is available at most computer supply stores.

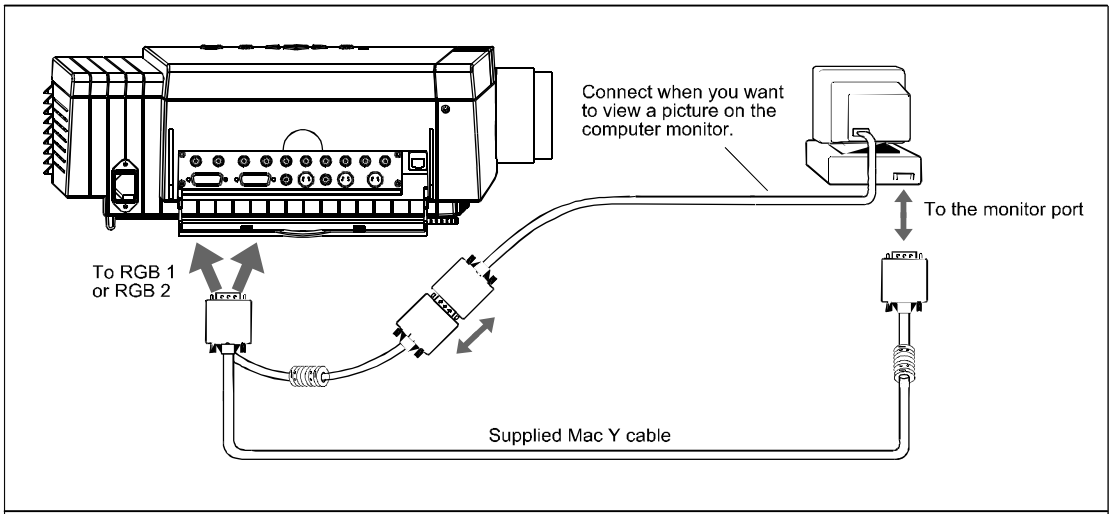
Connecting to a PC

Check that the power for the ***Projector*** and computer are off before connecting the cables. Connect the supplied *PC Y RGB* cable to the ***Projector*** as shown below. If you wish to use your monitor concurrently with projection, connect the short Y cable to your PC monitor. Connect the other end of the *PC Y RGB* cable to your *PC* monitor port. The supplied *PC Y RGB* cable may be connected to either RGB *1* or *RGB 2*. Connect your computer audio to the corresponding RGB connector.



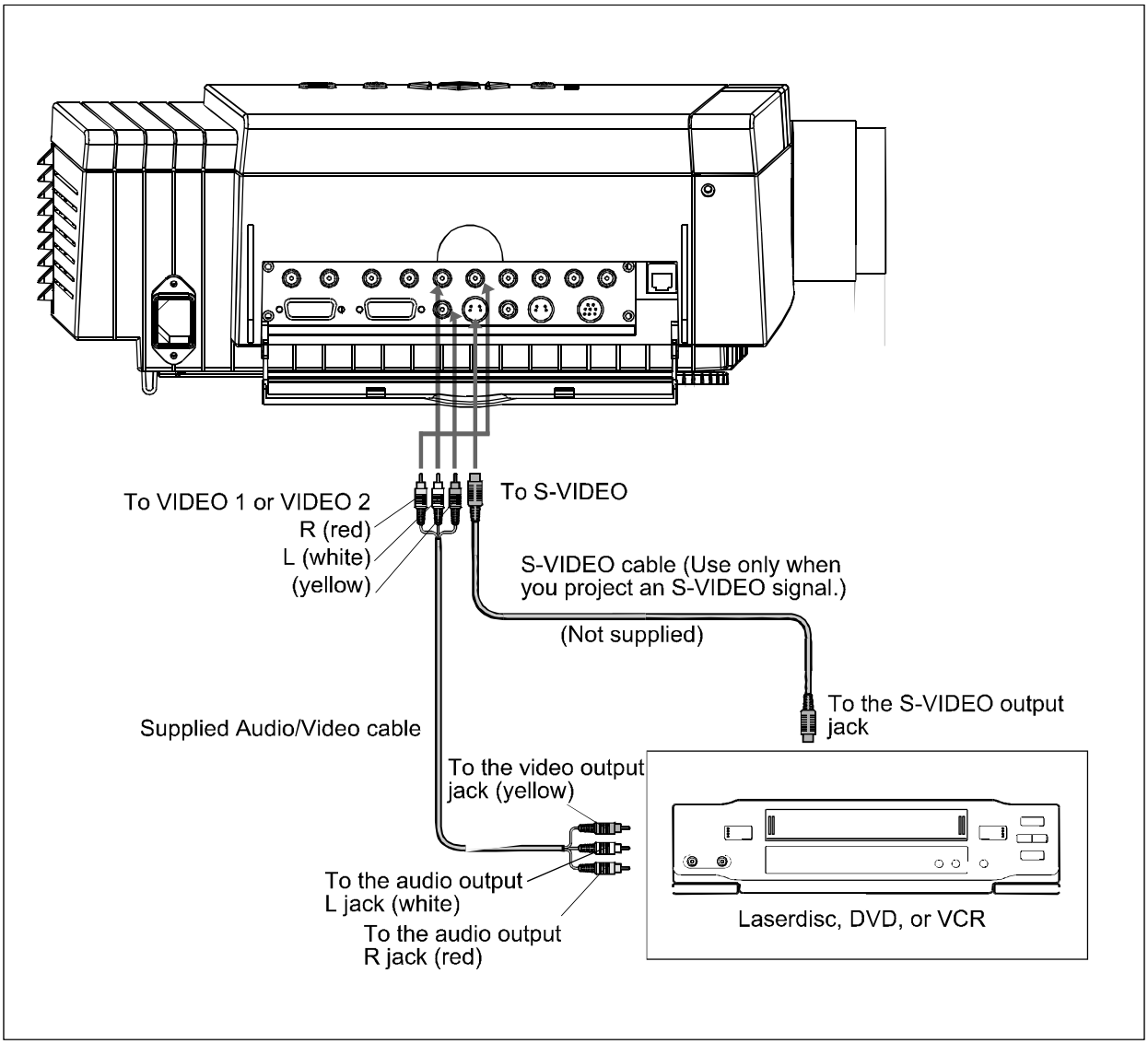
Connecting to a Mac

Check that the power for the ***Projector*** and computer are off before connecting the cables. Connect the supplied *Mac Y RGB* cable to the ***Projector*** as shown below. If you wish to use your monitor concurrently with projection, connect the short Y cable to your Mac monitor. Connect the other end of the *Mac Y RGB* cable to your Mac monitor port. The supplied *Mac Y RGB* cable may be connected to either *RGB 1* or *RGB 2*. Connect your computer audio to the corresponding RGB connector.



7. Connecting a Video Device

To connect a VCR, DVD, laserdisc, or other video device, use the supplied *Audio/Video* cables with 3 connectors at each end and attach them to the audio/video connectors of *Video 1* or *Video 2* and to the corresponding connectors of your video device.

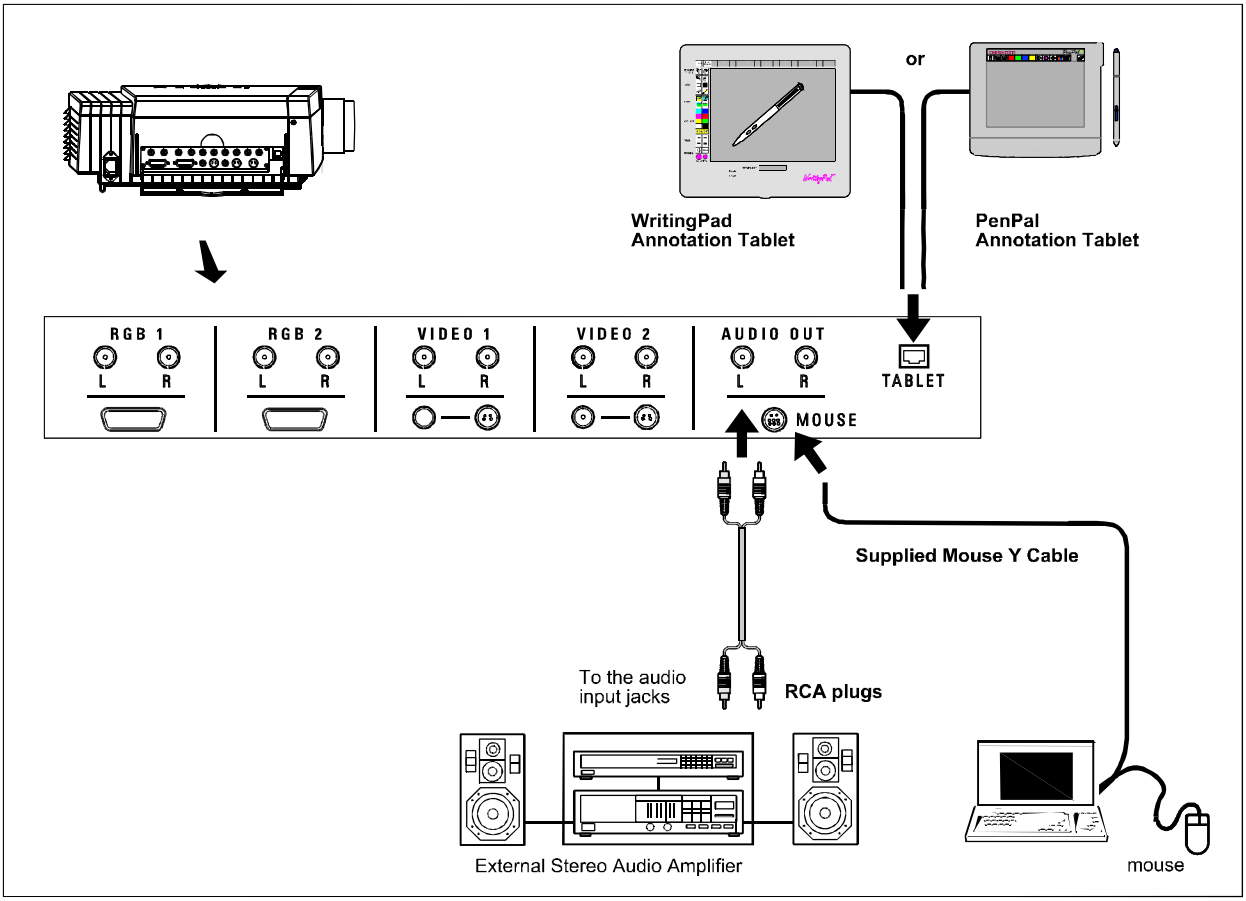


8. Connecting an External Amplifier, Computer Mouse, or Annotation Device

If you have your own audio system, you may use the *Audio Out* connectors of the ***Projector*** to provide a line level output to an external amplifier. If you do not want the ***Projector*** internal speakers to operate, use the *Audio Menu* to disable them (the Audio Menu is discussed in the following pages).

If you have a Microsoft compatible mouse, you may use the *Remote Control* and/or the ***Annotation*** *Tablet* as a mouse by connecting the *PC Mouse Y Cable* to the *Mouse* connector of the ***Projector*** and the other end to the mouse serial port of your computer. Use the supplied adapter plug for converting a 25-pin serial connector to a 9-pin serial connector. If you wish to use the *Remote Control* and/or the ***Annotation*** device as a Macintosh mouse, a *Macintosh Mouse Adapter* is available as an accessory. Your computer mouse may also be attached to the *PC Mouse Y* cable.

If you have the ***Annotation*** option, connect it to the *Tablet* connector of the ***Projector***.

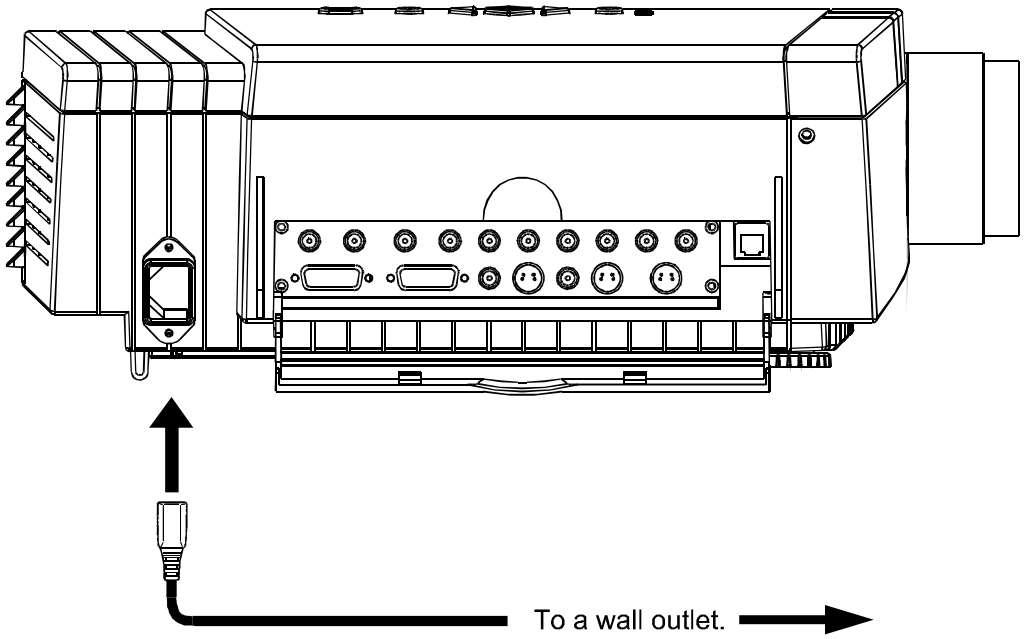


9. Secure Connectors

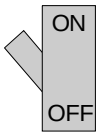
Tighten all cable connector screws.

10. Connect Power Cable

Connect the power cable to the *Projector* and plug the power cord into an outlet.



11. Power On



Turn on the ***Projector*** *Lamp* by depressing the *Power* key on the *Control Panel* or depressing the *Menu* key on the *Remote Control* or optional *Annotation* device. Next turn on your computer and any other equipment you attached to the ***Projector***. If the ***Projector*** is receiving power, the *Lamp* will light, the green *Power LED* will light, and all active video sources will be identified. When you turn off your ***Projector*** *Lamp*, the *Source* LEDs on the ***Projector*** keypad will turn off, the green *Power* LED will blink, and the cooling fan will automatically turn off after the ***Projector*** has cooled.

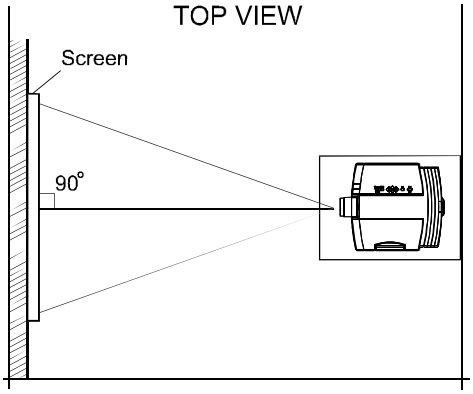
NOTE: *To turn off the Projector, hold down the Power key until the Lamp turns off. If you are using the Remote Control or an* ***Annotation*** *device as a mouse, you must apply power to the* ***Projector*** *before you power-on your computer in order for the mouse to be properly identified.*

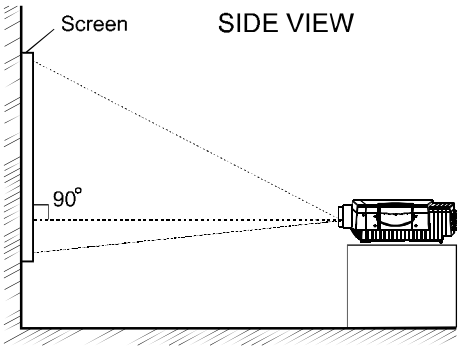
Adjust the room lighting. Your *Projector* is ready for use. You may make changes and adjustments with the *Projector* keypad, *Remote Control*, or the *Annotation* option. Any changes or adjustments you make are automatically saved and will be recalled the next time that you turn on the unit. See *Troubleshooting* section if you are having problems.

Installation

General

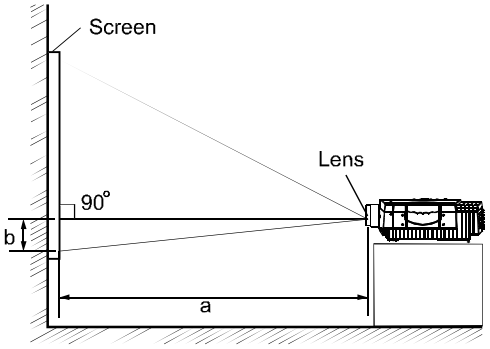
Select a room that can be darkened and using the table below, determine a ***Projector*** location that suites your screen needs. Place the ***Projector*** so that the projecting light hits the screen squarely (see TOP and SIDE VIEWS below). For ceiling mount, contact your local dealer.





Adjust the distance between the lens and the screen. The picture size depends on the distance between the lens and the screen and the zoom setting of the ***Projector*** lens. Adjust the picture size by changing the distances as shown below.

a: Distance between the lens and the screen.
b: Distance between the lens height and the bottom of the screen.



Diagonal Screen Size: inches (m)	Distance between the lens and the screen: a inches (m)		Distance between the lens height and the bottom of the screen: b inches (m)
	Minimum Zoom	Maximum Zoom	
40 (1.02)	57.09 (1.45)	79.92 (2.03)	0.7 (1.8)
60 (1.52)	86.61 (2.20)	121.26 (3.08)	1.0 (2.6)
80 (2.03)	116.54 (2.96)	162.99 (4.14)	1.4 (3.5)
100 (2.54)	146.08 (3.71)	204.72 (5.20)	1.7 (4.4)
120 (3.05)	175.98 (4.47)	246.46 (6.26)	2.1 (5.3)
150 (3.81)	220.47 (5.60)	308.66 (7.84)	2.6 (6.6)
200 (5.08)	294.88 (7.49)	412.99 (10.49)	3.5 (8.8)
300 (7.62)	456.69 (11.60)	--	5.2 (13.2)

PROJECTOR OPERATION

Controls and Indicators

Automatic Power Management

The ***Projector*** has a built-in power management system that causes it to automatically power down some of the electronics whenever the ***Projector*** is turned off. This reduces power consumption and the need to unplug the unit. Simply turn the ***Projector*** on or off as you need it, and the ***Projector*** responds accordingly.

Automatic Fan Failure Detection

The ***Projector*** is equipped with internal fans that protect the display elements (LCDs) and *Lamp* from overheating when the ***Projector*** is operating.

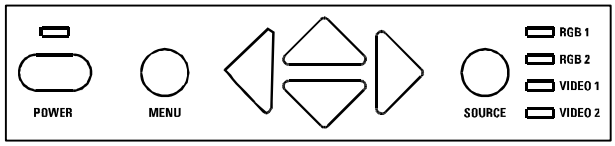
In the event that the ***Projector*** light is on and the fan is not operating, the ***Projector*** will prompt you with the following message:

> *"The **Projector** fan is not operating. Discontinue use of the **Projector** until the problem is resolved. Depress the <<Source>> key to clear this message."*

Continued use of the ***Projector*** when the fan is not operating may cause damage to the LCDs and *Lamp*. If the fan begins to operate, the message will automatically clear. If the fan problem cannot be cleared, contact your service representative. If you clear the message by depressing the ***Projector*** *Source* key, the message will not be re-displayed until the ***Projector*** *Lamp* has been turned off and on again.

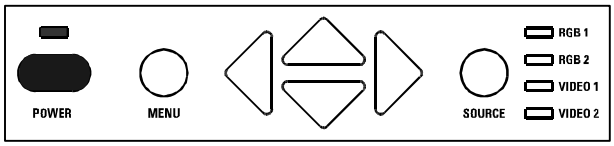
Projector LEDs and Keypad

The ***Projector*** *LEDs* give the status of power and each video source when the ***Projector*** *Lamp* is on.



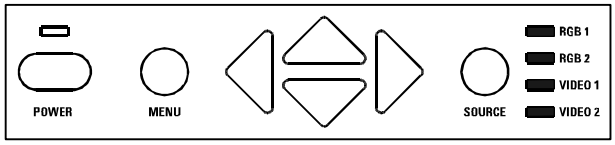
The ***Projector*** *Keypad* allows selection of all features and adjustments to the ***Projector*** through on-screen menus. These feature selections and adjustments can also be accessed by the *Remote Control* or the ***Annotation*** option. In addition, some ***Projector*** controls such as *Volume* and *Freeze* can be directly accessed with the *Remote Control*. *Volume* on/off and *Freeze* can also be accessed with the ***WritingPad***, and *Volume* on/off is available on the ***PenPal***.

Power Key and LED



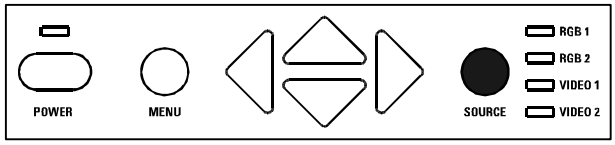
The *Power* key turns the ***Projector*** *Lamp* on and off. To turn the *Lamp* on, depress the *Power* key. To turn the *Lamp* off, depress and hold the *Power* key until the *Lamp* turns off. A countdown will appear at the bottom of the projected image while the *Lamp* key is depressed. This countdown is used to avoid accidental power-down. The *Power LED* will light whenever the ***Projector*** *Lamp* is lit. When the *Lamp* is turned off, the *Power LED* will flash until the cooling fan stops. The *Lamp* cannot be turned back on until the *Power LED* stops flashing.

Source LEDs



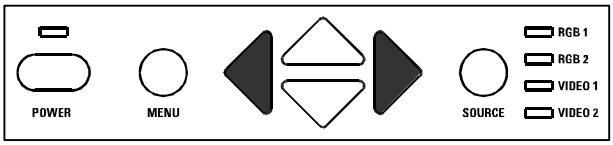
When the *Power LED* is green, the four (4) *Source LEDs* (*RGB 1, RGB 2, Video 1, Video 2*) indicate the status of the attached video sources. An unlit LED indicates the corresponding video source is not present. Steady green indicates video present. Orange indicates video present and selected. Red indicates the video was lost while selected. If a selected source is lost, it will remain selected unless you change it with the *Source* key. When initially powered on, the last source selected before power-off will be re-selected if it is available. If it is not available, the first available source will be selected.

Source Key



Up to six (6) data/video sources may be connected simultaneously to the ***Projector*** (2 RGB (PC and/or Mac), 2 composite video, and 2 S-Video). The *Source* key ● is used to switch between the connected sources and their associated audio. Any *Source LED* that is displayed in green or orange is a selectable video source. Only one source may be selected at a time. When a source is selected, the corresponding *Source LED* is illuminated orange. If both composite and S-Video are attached to either the *Video 1* or *Video 2* source, the *Source* key will allow you to select them individually.

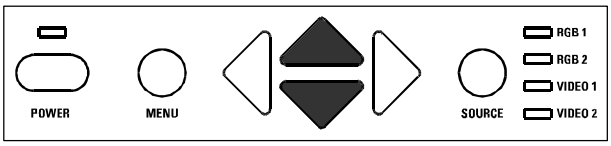
Center Image Keys



If the *Menu* key ● has not been pressed, the ✥ keys will allow you to move the projected image left or right as necessary to center it. Any changes you make will automatically be saved.

If *On-Screen Prompts* are enabled in the *Preferences Menu*, a message indicating the direction of image movement will appear at the bottom center of the image whenever a direction key ✥ is depressed. You may use the corner highlights that appear during this operation as a visual reference from proper alignment. When properly aligned, your projected image will exactly overlay the corner highlights.

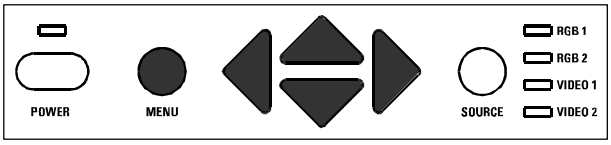
For complete alignment of the image in any direction, use the *Information Menu* as discussed in the following pages.



Volume Control Keys

If the *Menu* key ● has not been pressed, the ✣ keys will allow you to adjust the volume up or down.

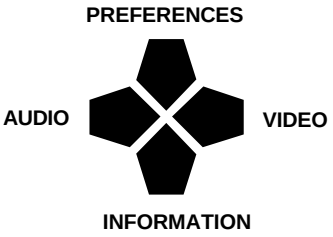
If *On-Screen Prompts* are enabled in the *Preferences Menu*, a volume adjustment message will be displayed whenever a volume key ✣ is depressed. For complete audio control, use the *Audio Menu* as discussed below.



Menu Keys

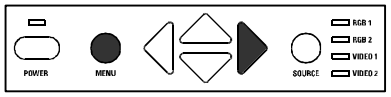
The *Menu* keys are used to enter, adjust and exit the *Preferences*, *Video*, *Information* and *Audio* menus. These menus may also be accessed with the *Remote Control* or the ***Annotation*** device.

Depress the *Menu* key ● and the menu at the right will be displayed on the projected image. To select a specific menu, depress the corresponding menu key on the ***Projector*** keypad or *Remote Control Pad*. If you have the ***Annotation*** option, use the *Pen* to directly select a menu with the fingertip of the hand ☝ symbol. Depress the ✣ key for the *Audio Menu*, the ✣ key for the *Video Menu*, the ✣ key for the *Preferences Menu* or the ✣ key for the *Information Menu*.

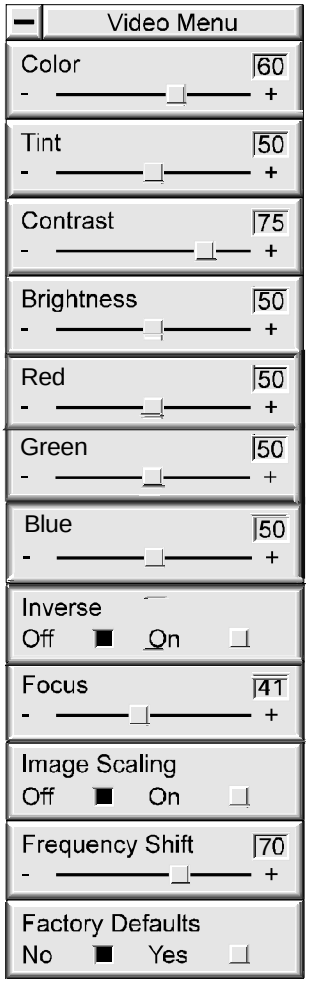


Once selected, the corresponding menu will be displayed on the projected image. The last selected item on the chosen menu is outlined in red. To select a different item on a menu, depress one of the up or down ✣ keys with the ***Projector*** keypad or the *Remote Control*. To change a selected item on a menu, depress the left or right ✣ keys with the ***Projector*** keypad or the *Remote Control*. If you have the ***Annotation*** option, you may directly select and change items on the menus by touching the fingertip of the hand ☝ symbol on the item of your choice. Once you have completed your changes, exit the menu by depressing the Menu key ● and any change you have made will be saved automatically. If you have the ***Annotation*** option, you may exit the menu by depressing the fingertip of the hand ☝ symbol on the exit ▣ button in the upper left corner of the menu.

Either selecting a box or moving a slider makes all changes and adjustments. The numeric value displayed in the corner of some adjustments is for reference purposes only. If you have the ***Annotation*** option, a change is made by touching the fingertip of the hand ☝ symbol on the appropriate box or touching it on the slider ▭ button and moving the *Pen* with the tip depressed.



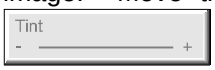
Video Menu



The *Video Menu* allows you to make adjustments to the currently selected video source. The ***Projector*** automatically sets the recommended parameters for the video you are using; however, you may wish to make additional adjustments with the *Video Menu*. Any changes you make affect only the video source you are viewing.

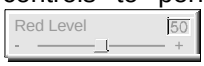
To make changes to the video parameters, press the *Menu* key and then the *Video* key and the *Video Menu* to the right will be displayed. To exit the menu, press the *Menu* key. If you have the ***Annotation*** option, you may also exit the menu by depressing the fingertip of the hand symbol on the *Video Menu* exit button.

Color controls the saturation of color. + *Color* will increase the color saturation and - *Color* will decrease the color saturation. Move the slider left or right to adjust color. The *Color* control will appear in a light gray if this control is unavailable for the source you are viewing.

Tint controls the amount of red and green in the image. Move the slider left or right to adjust tint. The *Tint* control will appear in a light gray  if this control is unavailable for the source you are viewing.

Contrast controls the difference between the light and dark areas of the image. Move the slider left or right to adjust contrast. +*Contrast* will increase the image contrast and - *Contrast* will decrease the image contrast.

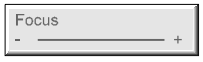
Brightness controls the intensity of the image. + *Brightness* will lighten the image and - *Brightness* will darken the image.

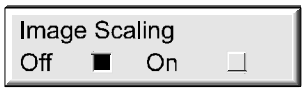
The *Red Level* is used to adjust the amount of red in the image. + *Red* will increase red in the image, and - *Red* will decrease red in the image. Use the *Green Level* and *Blue Level* controls to perfect the image color setting. The *Red Level* control will appear in a light gray  if this control is unavailable for the source you are viewing.

The *Green Level* is used to adjust the amount of green in the image. + *Green* will increase green in the image, and - *Green* will decrease green in the image. Use the *Red Level* and *Blue Level* controls to perfect the image color setting. The *Green Level* control will appear in a light gray if this control is unavailable for the source you are viewing.

The *Blue Level* is used to adjust the amount of blue in the image. + *Blue* will increase blue in the image, and - *Blue* will decrease blue in the image. Use the *Red Level* and *Green Level* controls to perfect the image color setting. The *Blue Level* control will appear in a light gray if this control is unavailable for the source you are viewing.

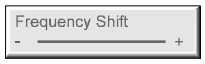
The *Inverse* adjustment controls whether colors will be displayed in their normal mode or in an inverse or negative image mode. *Inverse On* will create an effect of viewing a photographic negative. *Inverse On* is helpful when viewing white text on a black background. *Inverse Off* will restore the original colors.

The *Focus* adjustment controls image flicker or sparkle. If the edge of an image or character sparkles or a color is flickering, move the *Focus* slider until the best setting is found. The *Focus* adjustment control will appear in a light gray  if this control is unavailable for the source you are viewing.

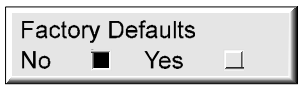


If *Image Scaling* is *On*, a high-resolution XGA or a low-resolution VGA or NTSC image will be scaled to fit the resolution of the ***Projector*** (SVGA 800 x 600). If *Image Scaling* is *Off*, XGA images are automatically compressed horizontally from 1024 to 800 pixels of resolution and lower resolution images are shown in their original resolution. If your *Source* is not a scalable image, *Image Scaling* will appear in a light gray .

NOTE: *XGA is supported only at 60 Hertz. Using the software provided with your video card, check your video card setting to ensure 60 Hertz has been selected.*

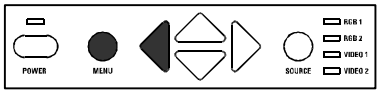
The *Frequency Shift* adjustment is used to correct vertical bands of distortion in the projected image. The easiest way to determine the need to make a frequency shift is to project a full image of repeated information such as the letter M. If a frequency shift is necessary, you will notice 1 or more vertical bands where the image is distorted within each band. To correct the problem, move the *Frequency Shift* slider in a direction that eliminates the distortion. Only one direction will improve the condition. A *Frequency Shift* setting of 70 is normal. *Frequency Shift* will appear in a light gray 

if this control is unavailable for the source you are viewing. When you are done making a *Frequency Shift* adjustment, enter the *Information Menu* and center the image with the ✥ keys.

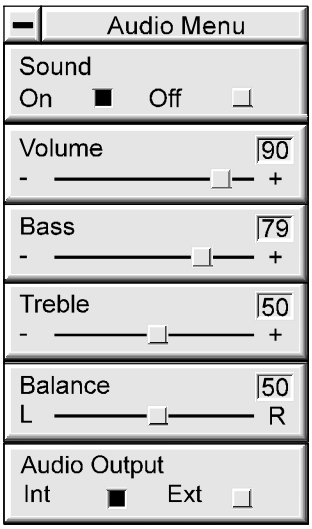


The *Factory Defaults* selection allows you to restore factory video settings for the video mode you are viewing. If you choose *Yes* and exit the *Video Menu*, the video mode you are viewing will be reset to the factory settings. All *Video Menu* parameters will be reset and the image position (*Information Menu*) will be restored to a *Horizontal Offset* of 0 and a *Vertical Offset* of 0.

Some video sources such as VGA can have many video modes; however, only the one you are viewing will be reset. The video mode is displayed in the *Information Menu* and it is also briefly displayed when you switch video sources.



Audio Menu



The *Audio Menu* allows you to adjust the audio attached to the video source you are viewing. Any audio changes you make are automatically saved.

Press the *Menu* and then the *Audio* key and the *Audio Menu* to the right will be displayed. To exit the menu, press the Menu key. If you have the ***Annotation*** option, you may also exit the menu by depressing the fingertip of the hand symbol on the *Audio Menu* exit button.

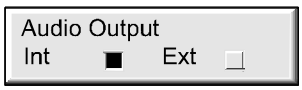
The *Sound* control sets the audio *On* or *Off* for the video source you are viewing. *Sound* can also be turned *On* or *Off* with the *Remote Control* or the ***Annotation*** device by touching the *Mute* button.

The *Volume* adjustment sets the volume level for the video source you are viewing. + *Volume* will increase the volume of the ***Projector*'s** built-in speakers or increase the line level *Audio Out*. - *Volume* will decrease the volume of the built-in speakers or decrease the line level of *Audio Out*.

The *Bass* adjustment controls the bass level for both the internal speakers and the *Audio Out*. + *Bass* will increase bass and - *Bass* will decrease bass.

The *Treble* adjustment controls the treble level for both the internal speakers and the *Audio Out*. + *Treble* will increase treble and - *Treble* will decrease treble.

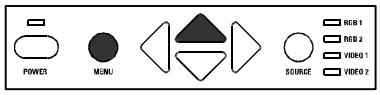
The *Balance* adjustment controls the balance of sound from a stereo input to the internal speakers and the *Audio Out*. Moving the *Balance* slider toward + or - *Balance* will shift the balance of sound from a stereo input.

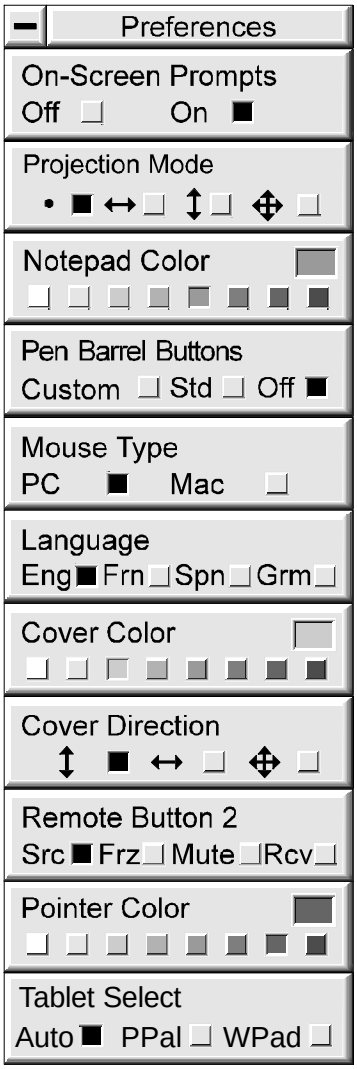


The *Audio Output* control defines the speaker system to be used by the

selected video source. Selecting *Int* enables the ***Projector's*** internal 12-watt stereo speaker system and disables the audio output. Selecting *Ext* enables the ***Projector's*** audio output for use with an external amplifier and speaker system and disables the internal speakers.

Preferences Menu

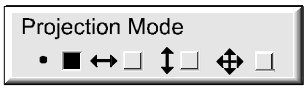




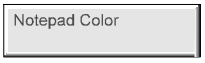
The *Preferences Menu* allows you to configure the ***Projector*** and the ***WritingPad*** or ***PenPal*** to your liking. If you do not have the ***Annotation*** feature or it is not connected, *Notepad Color* and *Pen Barrel Buttons* are disabled and they will appear in a light gray.

Press the *Menu* ● key and then the *Preferences* ✿ key and the *Preferences Menu* to the right will be displayed. To exit the menu, press the *Menu* ● key. If you have the ***Annotation*** option, you may also exit the menu by depressing the fingertip of the hand ☝ symbol on the *Preferences Menu* exit ▬ button.

On-Screen Prompts controls the appearance of messages in the lower center of the image whenever adjustments or changes are made to the ***Projector***. If *On-Screen Prompts* is *On*, the prompts are visible. If *On-Screen Prompts* is *Off*, the prompts are not displayed.



The *Projection Mode* defines the orientation of the ***Projector's*** image. The ● mode is used for front projection from a table. The ↔ mode is used for rear projection from a table. The ↕ mode is used for rear projection from a ceiling mount. The ✥ mode is used for front projection from a ceiling mount.

You may change the *Notepad Color* to any of 8 colors. The color you select is displayed in the upper right-hand corner of the *Notepad Color* selection and will become the ***Annotation*** device *Notepad* color when you exit the *Preferences Menu* and return to the *Notepad*. Whenever the Notepad color is changed, a suitable *Tool* color is automatically assigned to the last *Notepad Tool* you were using. You may change the assigned *Notepad Tool* color simply by selecting a different color while using the *Notepad*. If you do not have the ***Annotation*** option, the *Notepad Color* control will be disabled and will appear in a light gray 

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Pen Barrel Buttons allows you to choose the mode of operation for the *Pen* barrel buttons of the ***WritingPad*** and ***PenPal Annotation*** options. For the ***PenPal***, selecting *Custom* or *Std* enables the lower *Pen* barrel button for erase when the *Pencil* is selected and right mouse click when the *Mouse* is selected. When *Off* is selected, the *Pen* barrel buttons are deactivated. This is the factory setting for ***PenPal*** when it is shipped.

The ***WritingPad*** allows use of both buttons as well as customization of the buttons depending on the *Pen Barrel Buttons* setting. *Off* disables the *Pen* barrel buttons. If the *Pencil* is selected, *Std* (standard) assigns the *Pencil Eraser* to the lower *Pen* barrel button and the *Large Eraser* to the upper *Pen* barrel button.

If the *Mouse* *Tool* is selected, the lower barrel button enables the right mouse button and the upper barrel button enables the left double click. See the *Mouse* *Tool* description for additional information. *Custom* allows you to assign any *Tool* or *Icon* with associated *Color* and *Size* to each of the *Pen* barrel buttons. If you do not have the ***Annotation*** option, the *Pen Barrel Buttons* control will be disabled and will appear in a light gray

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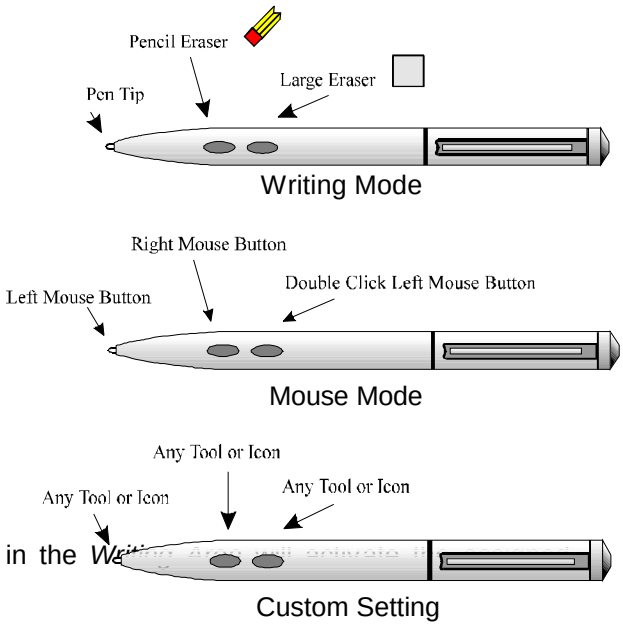
WritingPad

Custom mode is very handy when you use several *Tools* frequently, such as during a presentation. For example, in *Custom* mode you could assign a medium size red *Pencil* to the *Pen* tip, a pointer *Icon* to the lower barrel button, and the mouse to the upper barrel button. This gives you instant access to these three features directly from the *Pen*.



To assign a *Pen* barrel button, depress the *Pen* barrel button and touch the *Tool* or *Icon*, *Size*, and *Color* you wish to assign (*Icons* can be selected from different icon libraries). Once assigned, depressing that *Pen* barrel button will select the feature. Depressing the *Pen* barrel button and the *Pen* tip in the *Wri* feature.

Any changes you make in *Custom* mode are automatically saved so that the next time you use *Custom* mode your last *Pen* tip setting and barrel button settings will be restored. If you are sharing the ***Projector*** with other users, you may wish to set *Pen Barrel Buttons* to *Off* when you are done with the ***Projector***.

The *Mouse Type* identifies which type of mouse you have connected to the ***Projector***. The default is *PC* as this is the type of mouse cable provided with the ***Projector***. If you have purchased the *Macintosh Mouse Adapter*, change the *Mouse Type* to *Mac*. See the *Mouse Tool* description for additional instructions on the proper use of the mouse.

NOTE: *When using a PC Mouse Type, the* ***Projector*** *assumes you are using a Microsoft compatible mouse driver. For the PC mouse to operate properly, you must apply power to the* ***Projector*** *before you power-on your computer in order for the mouse to be properly identified.*

If you wish to alternate between the PC and the Macintosh mouse, be sure to bring up the PC mouse as described in the note above. Once the PC mouse is operating, you may change the mouse to Macintosh or back to the PC by changing the appropriate cables and setting the *Mouse Type* to the corresponding mouse source. The last *Mouse Type* setting is retained when you power-off the ***Projector***.

The *Language* selection identifies the language to be used for ***Projector*** messages and menus. The language options include *Eng* for English, *Frn* for French, *Spn* for Spanish and *Grm* for German. To change the language, select the appropriate language and exit the *Preferences Menu*. All subsequent messages will be shown in the new language. If a language is not available, it will appear in a light gray.

The *Cover* is an electronic sheet of paper (see *Remote Control* at the end of this section) that can be used to cover and uncover the projected video. This control allows you to change the *Cover* color to any of 8 colors. The color you select is displayed in the upper right-hand corner of the *Cover Color* selection and will become the *Cover* color when you exit the *Preferences Menu*. If the *Cover* is selected when *Cover Color* change is made, the *Cover* color will change immediately. If you are using the ***Annotation*** option, any writing on the *Cover* will be erased when the *Cover* color is changed. If the *Cover* is not selected, the *Cover Color* change will take effect on the next use of the *Cover*.

Cover Direction determines which direction the *Cover* may be moved. The choices are up and down ↕, left and right ↔, or any direction ✥. If the *Cover* is selected when the *Cover Direction* is changed, the *Cover* will be refreshed immediately. If you are using the ***Annotation*** option, any writing that was on the projected image will be erased when the *Cover* is refreshed. If the *Cover* is not selected, the *Cover Direction* change will take effect on the next use of the *Cover*.

The *Remote Control Button 2* (Select) is a programmable button. This menu item allows you to assign one of the following four functions to *Button 2*. Once assigned, depressing *Button 2* on the *Remote Control* will cause that function to be performed.

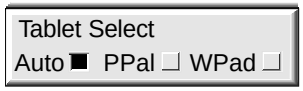
Src Allows you to switch to other video sources attached to the ***Projector***. This function behaves the same as the Source button on the ***Projector*** and the ***Annotation*** option.

Frz Allows you to freeze and unfreeze the projected image. This function behaves the same as the Freeze function on the ***WritingPad*** option.

Mute Disables or enables audio for the projected image. This function is the same as the *Mute* button on the ***Annotation*** device.

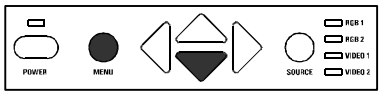
Rcv *Re-Cover* restores a full screen *Cover*.

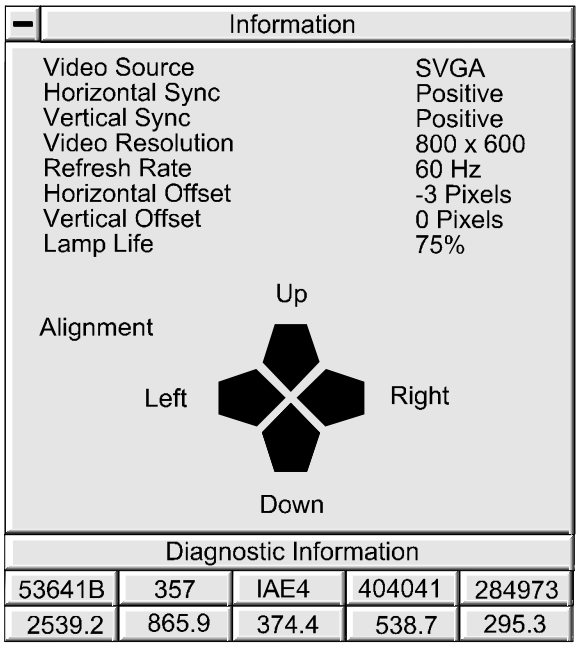
The *Pointer* is an arrow that can be accessed with the *Remote Control* (see *Remote Control* section of this document). You may change the *Pointer* color to any of 8 colors. The color you select is displayed in the upper right-hand corner of the *Pointer Color* selection and will become the *Pointer* color when you exit the *Preferences Menu*. If the *Pointer* is selected when *Pointer Color* change is made, the *Pointer* color will change immediately. If the *Pointer* is not selected, the *Pointer Color* change will take effect on the next use of the *Pointer*.



The *Tablet Select* is used to select a tablet when using a tablet splitter. If you are not using a splitter, the default *auto* box should remain checked. If you are using a splitter, check the box that reflects which tablet you are using; *Ppal* for ***PenPal***, or *Wpad* for ***WritingPad***.

Information Menu





The *Information Menu* allows you to view information about your current video source and gives access to diagnostic information regarding the ***Projector***. The diagnostic information is useful to our technical support staff when diagnosing problems.

Press the *Menu* key and then the *Information* key and the *Information Menu* to the right will be displayed. To exit the menu, press the *Menu* key. If you have the ***Annotation*** option, you may also exit the menu by depressing the fingertip of the hand symbol on the *Information Menu* exit button.

When the *Information Menu* is selected, the keys on the ***Projector*** and the *Remote Control Pad* may be used to center the image in the display. When these keys are used the new image position is displayed in the *Horizontal Offset* and *Vertical Offset* of the *Information Menu*. If you have the ***Annotation*** option, you may position the image by depressing the fingertip of the hand symbol on the appropriate key displayed on the *Information Menu*.

When the keys are operated in this mode, each of the four corners of the display will be marked with a highlight line to assist in aligning the projected image. The type of video being displayed determines the placement of the highlight lines. To properly position the image, display a full screen of information and move the image with the keys until the edges of the image and the highlight lines overlap.
If you have the ***Annotation*** option, you may touch the keys on the projected image with the fingertip of the hand symbol to make adjustments.

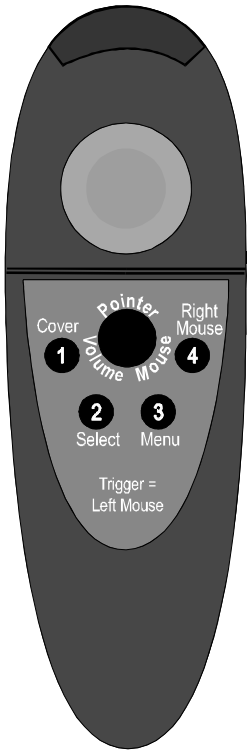
The *Lamp Life* displayed on the *Information Menu* indicates the percentage of *Lamp* life remaining before the *Lamp* shutdown counter begins. When the *Lamp Life* counter reaches zero percent a countdown of the remaining hours of *Lamp* life will be displayed each time the *Lamp* is lit. This message will clear after a few seconds or may be cleared instantly by depressing any key on the ***Projector***, *Remote Control*, or a button on the ***Annotation*** option. To avoid a complete shutdown of the ***Projector***, a replacement *Lamp* should be installed before the countdown reaches zero. See the *Care an Maintenance Section* for information on replacing the *Lamp* and resetting the *Lamp Counter*.

Remote Control

The *Remote Control* provides the ability to control a presentation, your computer mouse, and the ***Projector***. The *Remote Control* is operated by batteries that may be changed by removing the cover on the bottom. The unit uses infrared light to transmit your instructions to the ***Projector***. The infrared receivers are located to the right of the lens and top-rear of the ***Projector***. To ensure proper operation, the transmitter needs a clear path from the transmitter to the ***Projector***. Obstructing the path with your hand or some other object will reduce the effectiveness of the *Remote Control*. For best operation point it at the projected image or directly at the ***Projector***. With new batteries, the range of the *Remote Control* is approximately 40 feet including reflections. As the battery power diminishes with use or age, the range will diminish.

Remote Control Summary

The *Remote Control* has 7 controls:



1. A *Trigger* key located in the handle simulates a left mouse button.

2. A large *Pressure Pad* located at the top controls direction and speed of movement.

3. A *Mouse*/*Pointer*/*Volume* button located directly below the *Pressure Pad* switches control between the *Mouse,* the *Pointer* and *Volume* control.

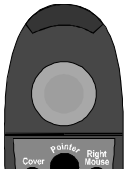
4. *Cover* (*Button 1*) enables and disables the *Cover* feature.

5. *Select* (Button 2) activates one of four preprogrammed features: *Source*, *Freeze*, *Mute* and *Re-Cover* (see *Preference Menu*).

6. *Menu* (*Button 3*) allows access to all the ***Projector*** controls.

7. *Right Mouse* (*Button 4*) simulates the right mouse button.

Pressure Pad



The *Pressure Pad* controls the speed and direction of movement. The position of your finger or thumb on the edge of the *Pressure Pad* determines the direction. The pressure you apply to that position determines the speed. For very slow movement, apply light pressure. To accelerate or move at higher speeds, increase pressure.

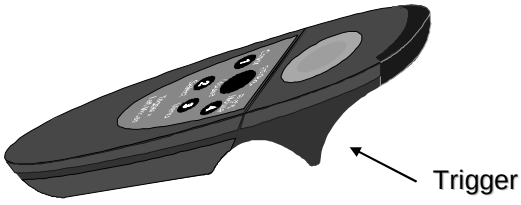
The *Pressure Pad* is used to move the *Mouse* or *Pointer* (*Center Button*), *Cover* (*Button 1*), or make selections from the ***Projector*** *Menus* (*Button 3*). When used with the *Menus*, movement is restricted to left, right, up and down using the left, right, top and bottom edge of the *Pressure Pad*, respectively. When used with *Cover*, the direction of movement is determined by the *Cover Direction* selected in the *Preference Menu*.

Mouse/Pointer/Volume

The *Mouse*/*Pointer/Volume* (*Center Button*)

controls the selection of either your computer *Mouse,* a *Pointer* generated by the ***Projector***, or *Volume*. The *Pressure Pad controls the Mouse, Pointer* or *Volume* depending on which is selected. At power-on the *Mouse* is selected. Depressing the *Mouse/Pointer/Volume* button will toggle the selection between the *Mouse, Pointer* and *Volume* control. The feature selected is shown with a brief prompt on the projected image unless *On-Screen Prompts* have been disabled in the *Preference Menu*. For the *Mouse* selection to operate, the proper mouse must be selected on the *Preference Menu* and the appropriate cables and/or adapter must be attached to the ***Projector***. Follow the instructions under ***Projector*** *Setup* in the *Introduction* for installing the *Mouse*. When Volume is selected, the Pressure Pad allows you to move the volume up and down.

Left Mouse Button



The *Trigger* key, located underneath the *Remote Control*, operates the *Left Mouse Button*. As mentioned above, the *Mouse* must be properly selected and connected for the *Mouse* features to operate. The *Trigger* key is enabled at all times for activating the *Left Mouse Button*.

To click, pull the *Trigger* once. To double click, pull the trigger twice. To drag, ensure that the *Mouse* is selected (*Mouse*/*Pointer/Volume* button) then pull the trigger and hold while you move the mouse with the *Pressure Pad*.

Right Mouse Button

Button 4 controls the *Right Mouse Button*. As mentioned above, the mouse must be properly selected and connected for the *Mouse* features to operate. *Button 4* is enabled at all times (except in *Notepad* when using the ***Annotation*** accessory) for activating the *Right Mouse Button*.

To click the *Right Mouse Button*, momentarily depress *Button 4*. To double click, momentarily depress *Button 4* twice. To drag, ensure that the *Mouse* is selected (*Mouse*/*Pointer* button) then depress *Button 4* while you move the mouse with the *Pressure Pad*.

Cover

Cover is an electronic sheet of paper that can be instantly placed over the projected video and moved with the *Pressure Pad* to reveal the video information under it. Depress *Button 1* to enable or disable the *Cover*. When enabled the *Cover* is restored to its last moved position. You can change the *Cover* color and the direction of movement in the *Preference Menu*.

Select

Select is a programmable key that can be set to any of 4 functions by changing the setting of *Remote Button 2* in the *Preference Menu*. The default setting is *Source* (Src). The functions are:

***Source* (*Src*)**	Switches to other video sources attached to the ***Projector***. This function is the same as the *Source* key on the ***Projector*** and the ***Annotation*** devices.
***Freeze* (*Frz*)**	Freezes and unfreezes the projected image. This function is the same as the *Freeze* button on the ***WritingPad***.
Mute	*Mute* disables or enables the audio for the selected *Source* (projected image). This function is the same as the *Mute* button on the ***Annotation*** devices.
***Re-Cover* (*Rcv*)**	Restores the *Cover* over the entire projected image.

Menu

Menu activates and deactivates the ***Projector*** menus. This button behaves the same as the *Menu* button on the ***Projector*** and on the ***Annotation*** device. Once the *Menu* has been activated, depressing an edge of the *Pad* will select a specific menu. The edges of the *Pad* correspond directly to the *Menu* items. For example, depressing the top edge of the *Pad* would select the *Preference Menu*.

Once a *Menu* has been selected, each successive depression of the top or bottom of the *Pad* will move the *Menu* item selector up or down one item. The selected *Menu* item is denoted by a red box outlining the item. Once a *Menu* item has been selected, applying pressure to the left or right edge of the *Pad* can change it. For *Menu* items with slider adjustments, continuous pressure on the left or right edge will provide continuous movement of the slider. For *Menu* items with discrete selections, each depression of the left or right edge of the *Pad* will change the selected item. See discussion on the *Menu* system in the following sections for more information. To exit the *Menu*, depress the *Menu* button.

Mouse Control

Before you can control your computer mouse with the *Remote Control*, the ***Projector*** must be properly connected to your computer. Follow the instructions under ***Projector*** *Setup*.

Once the *Mouse* is properly connected, the *Left Mouse* button (*Trigger*) and *Right Mouse* button (*Button 4*) control the left and right mouse buttons respectively and are active at all times. The *Pad* controls the movement of the mouse. Therefore, to move the *Mouse*, it must be selected with the *Mouse*/*Pointer*/*Volume* button.

Click and double click are available at all times with the *Left* and *Right Mouse* buttons (*Trigger* and *Button 4*). To drag, depress the *Left* or *Right Mouse* button (*Trigger* or *Button 4*) as required and apply light pressure to the *Pad* while in *Mouse* mode.

The edge of the *Pad* determines the direction and the amount of pressure on the edge of the *Pad* determines the speed of mouse movement.

Power On/Off from the Remote Control

Once the ***Projector*** has been connected to an external power source, it may be powered-up or powered down from the *Control Panel* on the ***Projector*** or from the *Remote Control*.

To power-up the ***Projector*** with the Remote Control, depress any of the four numbered keys (1-4).

To power-down the ***Projector*** with the *Remote Control*, perform the following with the *Remote Control*:

- Depress the *Menu* key (*Button 3*)
- Pull the *Trigger* three times

Depress the *Menu* key (*Button 3*) to cancel and exit the *Menu*.

Presentation Control

As mentioned above, the *Left* and *Right Mouse* buttons (*Trigger* and *Button 4*) control the left and right mouse button of your computer. This is handy when using presentation applications that use the left and right mouse buttons to move forward or backward to the next slide.

In addition, you may enable a *Pointer* with the *Mouse*/*Pointer/Volume* button and use it to point or draw attention to your subject while still maintaining control of your slide selection with the mouse buttons. The *Pointer* is enabled and disabled by depressing the *Mouse*/*Pointer/Volume* button. You may change the color of the *Pointer* with the *Preference Menu*. You can also use the *Mouse* instead of the *Pointer* with the same button control.

For further presentation control, you may activate *Cover*, which is an electronic sheet of paper that can be used to progressively reveal or hide presentation material. The color of the *Cover* and the direction that you would like to move it can be set in the *Preference Menu*. Once selected, the *Cover* is moved with the *Pad* in the same way that you would move the *Pointer* or *Mouse*.

Simply touching the corresponding button does switching between *Cover* and *Pointer* or *Cover* and *Mouse*. The *Pad* will always control the last selected item.

Projector Control

The *Menu* (*Button 3*) provides access to the ***Projector*** menus and once activated the *Pad* controls all access to *Menu* changes.

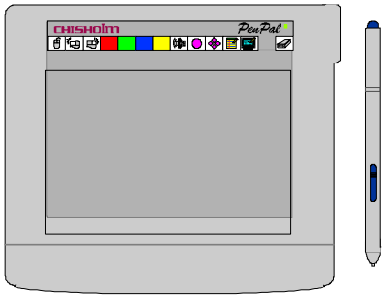
Additionally, *Select* (*Button 2*) can be programmed from the *Preference Menu* to provide switching of video sources, freezing of video, re-covering the video, or muting of sound.

ANNOTATION OPTION

The ***Annotation*** option allows you to electronically write on your projected image independent of the video sources that you may have attached, control an optional mouse, and make adjustments to the ***Projector***. The ***Annotation*** device consists of a writing *Tablet* that plugs directly into the ***Projector*** (*Tablet connector*) and a *Pen*. There are two types of ***Annotation*** devices: ***WritingPad*** and ***PenPal***. Each is discussed in the following pages.

CAUTION: *Do not use the Tablet on top of a monitor, as a monitor generates radio frequency noise that may cause the Tablet to give unpredictable results.*

PenPal



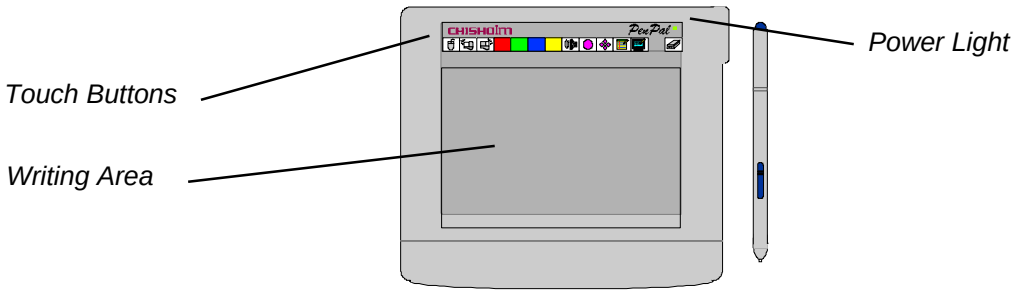
The ***PenPal Annotation*** option is a small annotation device that is designed for simplicity and ease of use. When properly connected, ***PenPal*** will perform as follows.

Use of the PenPal Tablet

The *Tablet* is used for writing on the projected image, controlling the ***Projector***, or controlling a mouse-based application (*PC Mouse Adapter* control is included, *Macintosh Mouse Adapter* is an additional option). Controlling a mouse-based application requires the proper cable or adapter and compatible mouse driver software in your computer. See the discussion on the *Mouse* *Tool* in this section for more information.

The *Tablet* surface consists of *Touch Buttons* and a *Writing Area*. The *Writing Area* is the *Tablet* area on which all writing is done and corresponds to the projected image. The *Touch Buttons* are an array of buttons across the top of the *Writing Area* that activate the various features of ***PenPal***.

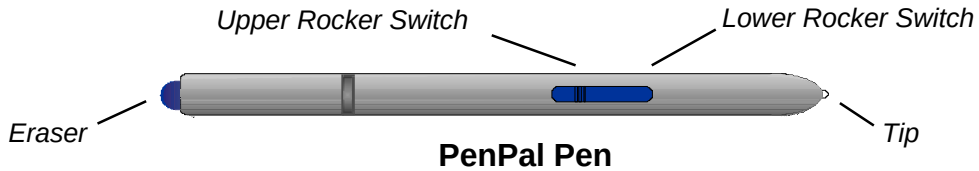
A Power light in the upper right hand corner of the *Tablet* provides operational information about the *Tablet*. An orange Power light indicates power is present at the *Tablet*. A green Power light indicates that power is present at the *Tablet*, the *Pen* is in proximity, and a *Pen* button is depressed.



Features of the PenPal Pen

The *Pen* does not require batteries to operate. Once the *Tablet* is connected and the ***Projector*** is powered on, the *Pen* is active whenever it is in proximity of the *Writing Area*. Proximity means either end of the *Pen* is near the surface of the *Writing Area* and the *Pen* is not touching the surface.

The *Pen* is very simple. It has the appearance of a pencil with an eraser and a rocker switch on the side. The *Pen* is used to select features from the *Touch Buttons*, write on the projected image, adjust the ***Projector***, or control your computer mouse. An icon will appear on the projected image whenever the *Pen* is in proximity of the *Writing Area*. The icon identifies the selected ***PenPal*** feature. The position of the icon is changed by moving the *Pen* within the *Writing Area* while in proximity.



PenPal Pen

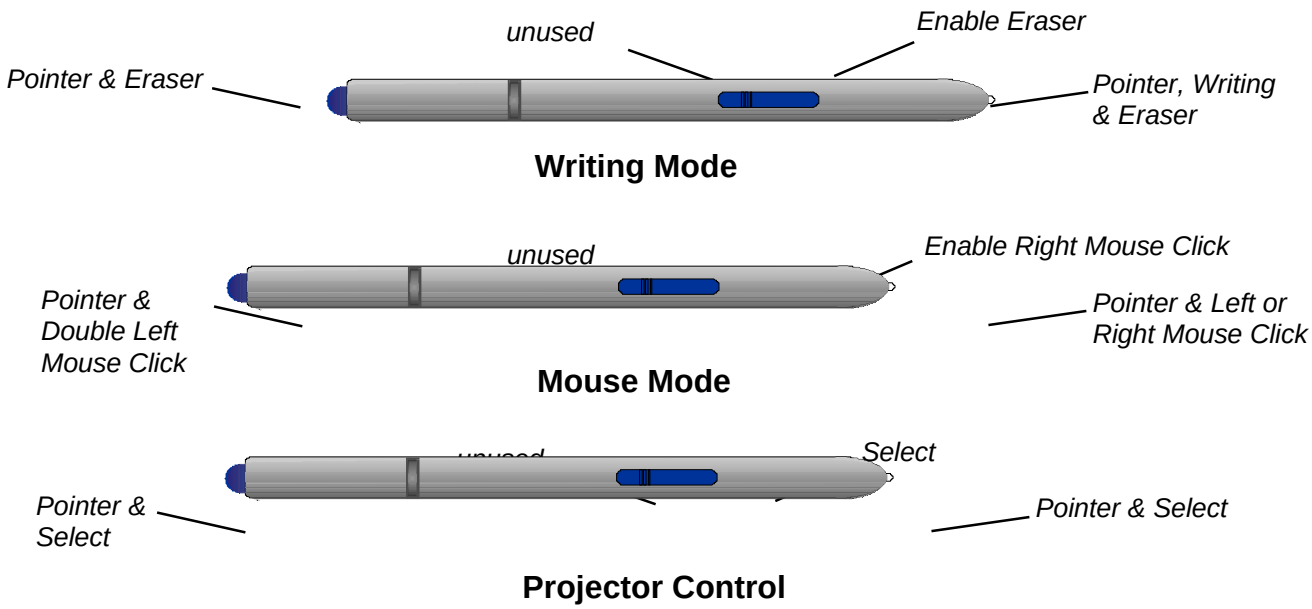
The tip of the *Pen* contains a switch that can be activated when the *Pen* is in proximity of the *Writing Area* or the *Touch Buttons*. When ***PenPal*** is in a writing mode, this switch activates writing and the amount of pressure applied determines the line width. When in a mouse mode, this switch activates the left mouse button and pressure is ignored. When in a ***Projector*** control mode, this switch allows you to select ***Projector*** features and make ***Projector*** adjustments and pressure is ignored.

The eraser of the *Pen* also contains a pressure sensitive switch that can be activated when the *Pen* is in proximity of the *Writing Area* or the *Touch Buttons*. When ***PenPal*** is in a writing mode, this switch activates a large eraser. When in mouse mode, this switch activates the double left click mouse button. When in a ***Projector*** control mode, this switch allows you to select ***Projector*** features and make ***Projector*** adjustments and pressure is ignored.

To select a ***PenPal*** feature, depress the *Pen* tip on the desired feature in the *Touch Button* area. If the feature selected is momentary, such as a left or right mouse click, the operation is performed immediately and the last used feature remains unchanged. If the feature selected performs a function, such as moving the mouse or writing, the *Pen* will display an appropriate icon showing the feature selected.

Moving the icon on the image is very much like moving a mouse. The easiest way to use the *Pen* is to place it in proximity of the *Writing Area*, look at the projected image, position the icon, and press the *Pen* tip to the *Writing Area* to perform the selected function.

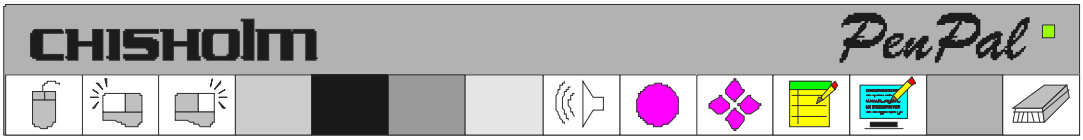
At initial power on the *Pen* is enabled as a *Red* pencil. If a mouse is not available, the mouse *Touch Buttons* will be ignored.

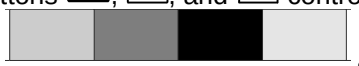


NOTE: *The lower half of the rocker switch behaves as an eraser when in writing mode, a select button when in* ***Projector*** *control mode, and a right mouse button when in mouse mode. The upper half of the rocker switch is not used.*

NOTE: *To activate the pencil end switch, it must be depressed on the Writing Area or Touch Buttons. To activate the eraser switch, the Pen must be turned over and the eraser depressed on the Writing Area.*

Touch Button Descriptions



The *Touch Pad* of ***PenPal*** consists of 13 buttons. The first 3 buttons , , and control the mouse, if the mouse is attached. Each of the four-color buttons  selects a *Pencil* for writing in the selected color. The ***Projector*** controls , and allow you to turn sound off and on, select alternate video sources, and access the ***Projector*** menus. The *Pads* and allow you to select the *Notepad* for giving examples and explaining ideas or the *Videopad* for direct annotation of the video source. The last button, , allows you to instantaneously erase all annotation from the projected image. Below is a more detailed discussion of each of these features.

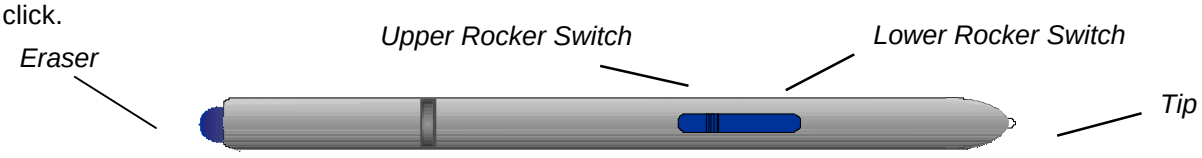
Mouse

The *Mouse* provides the ability to control a mouse-based application program. The *Mouse Type* setting (PC or MAC) in the *Preferences Menu* determines which type of mouse you have selected. Use of the *Mouse Tool* with a Microsoft-compatible mouse driver requires the *PC Mouse Y Cable* to be attached to *Mouse* connector of the ***Projector*** and to the mouse serial port of your computer, and a *Mouse Type* of PC selected in the *Preferences Menu*. A connector adapter is provided if you are using a 25-pin connector. You may also attach your computer mouse to the short cable of the *PC Mouse Adapter* cable. Once attached, you may use either mouse, but not both simultaneously.

The *Macintosh Mouse Adapter* is available and may be purchased separately. Use of the *Mouse Tool* with the *Macintosh Mouse Adapter* requires installation of a driver, connection of the *Macintosh Mouse Adapter* to the *Mouse connector* of the ***Projector*** and to the ADB port of your Macintosh, and a *Mouse Type* of MAC selected in the *Preferences Menu*.

Once the mouse is properly installed, depressing the *Pen* tip on the *Mouse Tool* will allow the ***PenPal*** *Pen* and *Tablet* to become a Microsoft-compatible mouse or a Macintosh mouse, depending on which mouse you installed and the *Mouse Type* setting of the *Preferences Menu*.

The tip of the *Pen* serves as the mouse button for a Macintosh or as the left mouse button for a Microsoft-compatible mouse. The lower half of the barrel button is equivalent to the Macintosh button or the right button on a Microsoft-compatible mouse. The eraser end of the *Pen* is equivalent to a double left mouse click.



To use the *Mouse*, depress the *Pen* tip on the *Mouse Tool*. Position the mouse on the image by moving the *Pen* tip over the *Writing Area* while it is in proximity. To activate the left mouse button, position the mouse to the desired position and depress the *Pen* tip. To activate the right mouse button, position the mouse to the desired position, depress the lower barrel button, and then depress the *Pen* tip. To double click the left mouse button, turn the *Pen* over so that the eraser end is in proximity and position the mouse to the desired position, and depress the *Pen* eraser.

You may also double click the left mouse button by depressing the *Pen* tip twice. If you use this method, be sure to keep the mouse position stationary between clicks or it will be detected by your application software as two single clicks rather than one double click.

Left and right mouse clicks are also directly activated with the *Mouse Click* buttons. When using these *Touch Buttons*, the actions are taken immediately and the last selected *Tool* of the *Pen* remains unchanged.

If the *Pen* should reach the edge of the *Writing Area* and the *Mouse* still has not reached the edge of the image, simply move the *Pen* to the opposite side of the *Writing Area* and back, keeping the *Pen* in proximity while you move it.

***NOTE**: To ensure that your PC correctly identifies the Microsoft-compatible mouse, the **Projector** must be powered-on before your PC is powered-on.*

***NOTE:** If you can adjust the mouse driver settings, we recommend a slow mouse speed and a medium speed double click with acceleration not selected.*

***NOTE:** If the Mouse Tool is selected when you switch a video Source, the Mouse Tool will automatically be de-selected. This is done to minimize the chance of accidentally activating the mouse while viewing a different video Source, for example, a VCR. The Mouse Tool is still available in this mode; however, you must re-select it to use it.*

Left Mouse Click

The *Left Mouse Click* button simulates the left mouse button of your personal computer mouse. To activate the left mouse button, momentarily depress the *Pen* tip on the *Left Mouse Click* button. To double click, depress the *Pen* tip twice on the Left *Mouse Click* button.

Right Mouse Click

The *Right Mouse Click* button simulates the right mouse button of your personal computer mouse. To activate the right mouse button, momentarily depress the *Pen* tip on the *Right Mouse Click* button. To double click, depress the *Pen* tip twice on the *Right Mouse Click* button.

Pencil

There are four (4) colored *Pencils* available. Touching a color button selects that colored *Pencil* for writing. Each *Pad* retains its last used color; therefore, switching between *Videopad* and *Notepad* will automatically restore the last selected *Pencil* color. The available colors include red, green, blue and yellow.

Sound Control

The *Sound Control* button enables and disables sound at the ***Projector*** speaker or external speakers attached to the ***Projector***.

Source Selection

Up to six (6) video sources may be connected simultaneously to the ***Projector*** (PC or Macintosh on *RGB 1* and *RGB 2*, S-Video on *Video 1* and *Video 2*, composite video on *Video 1* and *Video 2*). The ***Projector*** *Source* button is used to switch between the connected sources.

Menu Selection

The ***PenPal*** *Menu* button provides access to the *Preferences*, *Video*, *Information* and *Audio* menus. Refer to the *Menu* section of this *Owner's Manual* for information on each of these menus.

Menu may also be used to turn the ***Projector*** *Lamp on or off. When the* ***Projector*** *Lamp is off, depressing the Pen on the Menu button will turn the Lamp on. When the* ***Projector*** *Lamp is on, depressing the Pen on the Menu button will bring up the Menu and the message "Press Tablet Erase To Power Down" will appear in red. To turn off the Lamp, depress the Pen on the Erase button.*

Notepad

The *Notepad* is a writing pad for doing examples, explaining ideas or taking notes. To select the *Notepad*, simply depress the *Pen* tip on the *Notepad* button.

The color of the *Notepad* may be changed at any time with the *Preferences Menu*. If you change the *Notepad* color, ***PenPal*** will automatically assign a suitable writing color. You may change the assigned writing color at any time using the *Color* buttons.

Videopad

Videopad displays your selected video source as your writing pad. To select the *Videopad*, simply depress the *Pen* tip on the *Videopad* button. The *Videopad* may be used the same as the *Notepad* except that the background is your selected video source.

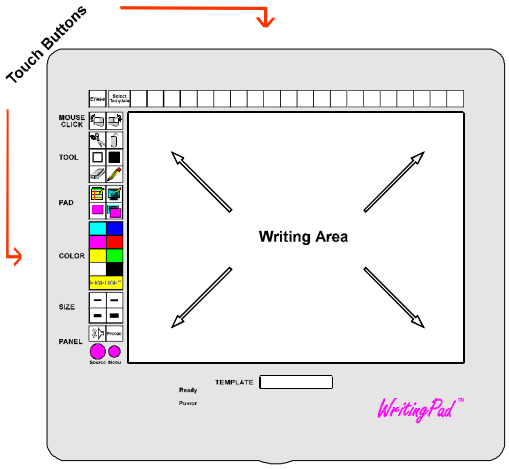
Erase

Selecting *Erase* will cause all ***PenPal*** written information on the projected image to be erased.

may also be used to turn the Projector Lamp off. See Menu Selection above.

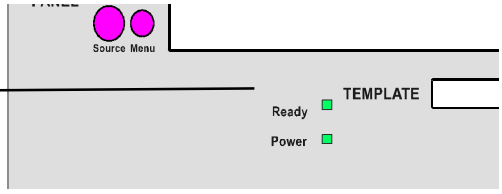
WritingPad

Use of the WritingPad Tablet



The *Tablet* is used for writing on the projected image, controlling the ***Projector***, or controlling a mouse-based application. Controlling a mouse-based application requires the proper cable or adapter and compatible mouse driver software in your computer. See the discussion on the *Mouse* *Tool* in this section for more information.

The surface consists of *Touch Buttons* and a *Writing Area*. The *Writing Area* is the area on which all writing is done and corresponds to the projected image. The *Touch Buttons* are an array of buttons along the side and top of the *Writing Area* that activate the various features of the ***Annotation*** device.



A blinking *Power* light indicates power is present at the *Tablet*. A steady *Power* light indicates that power is present at the *Tablet* and the *Pen* is in proximity. A steady *Ready* light indicates the *Tablet* is operational.

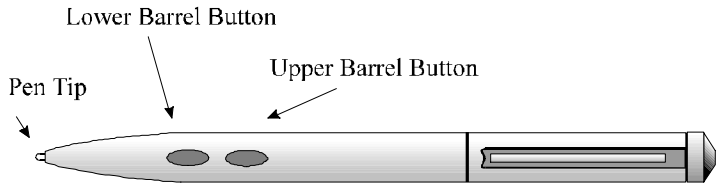
Features of the WritingPad Pen

The *Pen* is used to write on the projected image or to select or control features of the ***Annotation*** device, the ***Projector***, or your application program. Writing or drawing is done in the *Writing Area* located adjacent to the *Touch Buttons*. This *Writing Area* corresponds to the projected image. The *Pen* functions are selected by depressing the *Pen* tip on a *Touch Button(s)* located along the edge of the *Tablet*.

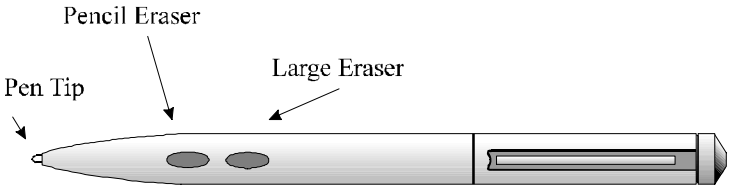
A symbol will appear on the projected image whenever the *Pen* is in proximity of the *Writing Area*. Proximity means the *Pen* tip is near the surface of the *Writing Area* and the *Pen* tip is not depressed. The symbol identifies the selected ***WritingPad*** feature. The position of the symbol is changed by moving the *Pen* within the *Writing Area* while in proximity.

Moving the symbol on the image is very much like moving a mouse. The easiest way to use the *Pen* is to place it in proximity of the *Writing Area*, look at the projected image, position the symbol, and press the *Pen* tip to the *Writing Area* to perform the selected function.

The *Pen* has three moveable sensors: a *Pen* tip and two barrel buttons on the side of the *Pen*. Depressing the *Pen* tip on a *Touch Button* selects that feature. Depressing and moving the *Pen* tip in the *Writing Area* causes the selected *Tool* to be performed in the last selected *Color* and *Size*.



If the *Pen Barrel Buttons* are set to *Standard* (Std) in the *Preferences Menu*, the lower barrel button may be used to erase small areas with the Pencil *Eraser* and the upper barrel button may be used to erase large areas with the *Large Eraser*. If the *Mouse Tool* is selected, the lower barrel button is a right mouse click and the upper barrel button is a double left mouse click. If *Pen Barrel Buttons* are set to *Custom* in the *Preferences Menu*, the *Pen* barrel buttons can be programmed. The *Pen Barrel Buttons* are initially *Off*; however, the *Large Eraser* feature is always directly available as *Touch Button Tool*.

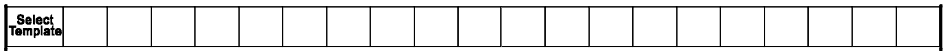


The *Pen* is operated with batteries, which should provide about one year of service before replacement is necessary. The batteries used are standard products that can be purchased at any store that sells calculators, cameras or watches. See the Service Information section of this *Owner's Manual* for more details.

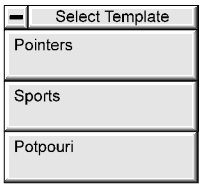
IMPORTANT NOTE: *To conserve power, the Pen will automatically shut down if the Pen tip or barrel buttons have not been used for more than a minute. To awaken the Pen, simply press any barrel button or the Pen tip. When storing the Pen, ensure that the Pen tip and barrel buttons are not depressed in order to avoid an unnecessary drain on the batteries. If the Pen is placed in a pencil holder, be sure that the Pen tip is up. If the Pen is placed in your pocket, be sure the Pen clip is adjusted so that the Pen tip does not reach the bottom of your pocket.*

Touch Button Descriptions

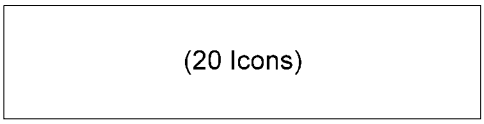
The *Touch Buttons* are divided into 8 categories: *Icons, Erase, Mouse Clicks, Tools, Pads, Colors, Sizes* and ***Projector*** control. Below is a detailed discussion of each of these *Touch Button* features.

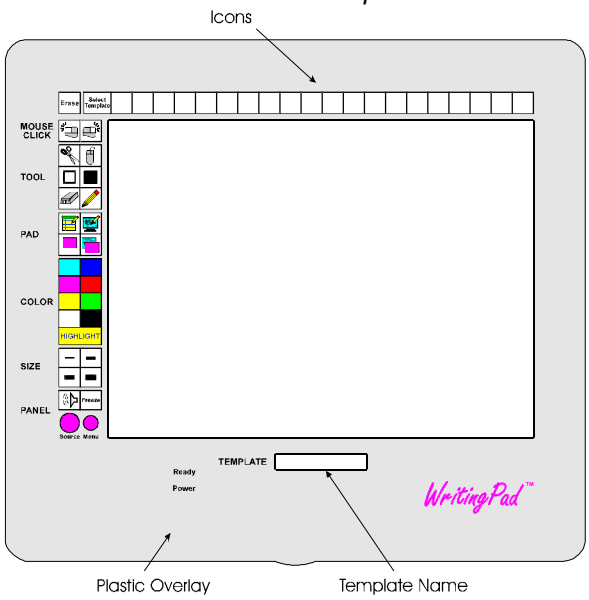


Icons



The ***WritingPad*** includes three (3) libraries of twenty (20) *Icons* each. *Icons* can be placed anywhere on the projected image. To select an *Icon* library, depress the *Pen* tip on the *Select Template* button and a *Select Template Menu* will be displayed. Using the *Pen*, touch the fingertip of the hand symbol on the template of interest and the 20 *Icons* of the selected template will be displayed. When the desired icon set is displayed, select it by depressing the fingertip of the hand symbol on the exit button in the upper left-hand corner of the *Template Menu*.





Now select the corresponding paper *Icon Template* from the set of three (3) *Icon Templates* that were included with the ***WritingPad.*** Place the *Icon Template* under the plastic *Tablet* overlay and position the *Icons* under the buttons to the right of the Select *Template* button. The name of the template will appear adjacent to the word *Template* below the *Writing Area* and the *Icons* will appear to the right of the *Select Template* button when the paper template is correctly positioned.

You only need to use *Select Template* when changing libraries. Once a library has been selected, the ***WritingPad*** will remember your selection the next time you power-on.

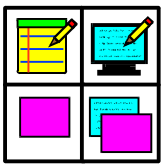
To select an *Icon*, depress the *Pen* tip on the desired *Icon*. The symbol on the projected image when the *Pen* is in proximity of the *Writing Area* will now be the *Icon* you selected. You may use this *Icon* as a pointing device or to place copies of it on the projected image. To place a copy of the *Icon* on the projected image, move the *Icon* symbol to the area you wish to mark and depress the *Pen* tip. If an *Icon* has a wild color, the last *Color* selected will replace the wild color. You can identify the wild color *Icons* by changing *Color* when a *Select Template* library is being displayed.

To move an *Icon* that has been placed on the image, position the *Tool* or *Icon* symbol near the center of the *Icon*. When the hand symbol appears, depress the *Pen* tip and move the *Icon* to the desired position. Only the first 36 *Icons* that have been placed on the image may be moved. Icons may be erased the same as other ***WritingPad***-generated information. To discontinue the use of an *Icon*, simply select another *Icon* or any *Tool*.

Erase

The *Erase* button will erase all ***WritingPad***-generated information from the displayed image. To use *Erase*, depress the *Pen* tip on Erase and all ***WritingPad***-generated information on the projected image will be instantly erased.

There are also three other ways to erase ***WritingPad***-generated data. erases large areas, erases areas in *Videopad* and cuts holes in *Notepad*, and allows you to create custom erasers.



Pads

All ***WritingPad*** activities are performed in either *Notepad* or *Videopad* mode. The *Tool* or *Icon*, *Color* and *Size* that you select in each *Pad* are automatically saved and restored when you switch between *Pads*. The *Cover* and *Re-Cover Pads* operate on the *Videopad* by attaching a sheet of electronic paper that can be moved about the image to reveal information on the *Videopad*.

Notepad

The *Notepad* is a writing pad for doing examples, explaining ideas or taking notes. To select the *Notepad*, simply depress the *Pen* tip on the *Notepad* button. The color of the *Notepad* may be changed at any time with the *Preferences Menu*. If you change the *Notepad* color, the ***WritingPad*** will automatically assign a suitable *Tool* color. You may change the assigned *Tool* color at any time using the *Color* buttons.

The *Scissors Tool* allows you to cut holes in the *Notepad* creating video windows for viewing your selected video source. These video windows can be erased by shrinking them until they disappear, moving a *Box* over the windows, touching Erase, or moving another window over the windows.

Videopad

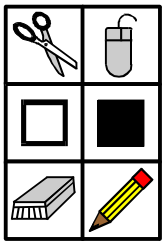
Videopad displays your selected video source as your writing pad. To select the *Videopad*, simply depress the *Pen* tip on the *Videopad* button. The *Videopad* may be used the same as the *Notepad* except that the background is your selected video source. The *Scissors Tool* allows you to erase large areas of the *Videopad*.

Re-Cover

The *Re-Cover* button creates an electronic paper overlay on the *Videopad*. Selecting *Re-Cover*, will cause the *Videopad* to be selected and an electronic sheet of paper to be placed over the *Videopad* image. Any previously written ***WritingPad*** data will be erased. To reveal the *Videopad*, place the *Pen* tip over the *Cover* in proximity of the *Tablet* and a direction icon will appear. To move the *Cover*, depress the *Pen* tip while the direction symbol is present and move the *Pen* in the allowed directions to move the *Cover*.

Cover

The *Cover* button selects the *Videopad* and restores the last position of the *Cover* on the *Videopad*. Any ***WritingPad*** data that is beneath the *Cover* is destroyed.



Tools

The *Tools* menu provides access to the ***WritingPad*** erasers, mouse and writing features. Each *Tool* remains selected until changed by another *Tool*, *Icon* or *Pen* button selection. The last used *Tool* is retained with each *Pad*; therefore, switching *Pads* will restore the *Tool*.

Scissors

The *Scissors* allows you to erase large areas of the *Videopad* or to cut windows in the *Notepad* allowing you to view video through it. To erase with the *Scissors* in *Videopad*, depress the *Pen* tip on the *Scissors* *Tool*, position the center of the *Scissors* symbol at any corner of a rectangular area to be erased, depress the *Pen* tip and draw a diagonal of the area to be erased. The *Scissors* will generate a dotted rectangle as the diagonal is drawn and all ***WritingPad*** data within the rectangle will be erased.

To cut a window in the *Notepad*, depress the *Pen* tip on the *Scissors* *Tool*, position the center of the *Scissors* symbol at any corner of the window to be cut, depress the *Pen* tip and draw a diagonal of the window. The *Scissors* will cut a window as the diagonal is drawn and all ***WritingPad*** data within the window will be erased. Once the window is drawn it may be moved and re-sized the same as a *Frame* or *Box* (See Manipulating and Objects). To erase a window, either reduce its size until it disappears, erase it by moving a box over it, or touch the *Erase* button.

Mouse

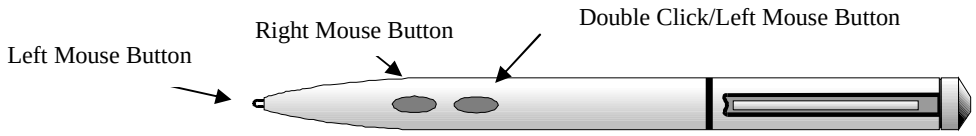
The *Mouse* provides the ability to control a mouse-based application program. The *Mouse Type* setting (PC or MAC) in the *Preferences Menu* determines which type of mouse you have selected. Use of the *Mouse* *Tool* with a Microsoft-compatible mouse driver requires the *PC Mouse Adapter* cable to be attached to the *Mouse connector* of the ***Projector*** and to the mouse serial port of your computer, and a *Mouse Type* of PC selected in the *Preferences Menu*. An adapter is provided if you are using a 25-pin connector.

The *Macintosh Mouse Adapter* is available and may be purchased separately. Use of the *Mouse* *Tool* as a Macintosh mouse requires installation of a driver, connection of the *Macintosh Mouse Adapter* to the *Mouse connector* of the ***Projector*** and to the ADB port of your Macintosh, and a *Mouse Type* of *MAC* selected in the *Preferences Menu*.

Once the mouse is properly installed, depressing the *Pen* tip on the *Mouse* *Tool* will allow the ***WritingPad*** *Pen* and *Tablet* to become a Microsoft-compatible mouse or a Macintosh mouse, depending on which mouse you installed and the *Mouse Type* setting of the *Preferences Menu*.

The tip of the *Pen* serves as the mouse button for a Macintosh or as the left mouse button for a Microsoft-compatible mouse. The lower barrel button is equivalent to the Macintosh button or the right button on a Microsoft-compatible mouse. The upper barrel button is equivalent to a double click of the Macintosh button or double click of the left button of a Microsoft-compatible mouse.

The *Pen Barrel Buttons* must be set to *STD* in the *Preferences Menu* for the *Pen* barrel button mouse features to work.



To use the PC mouse, depress the *Pen* tip on the *Mouse* *Tool*. Position the mouse on the image by moving the *Pen* tip over the *Writing Area* while it is in proximity. To activate the left mouse button, position the mouse to the desired position and depress the *Pen* tip. To activate the right mouse button, position the mouse to the desired position, depress the lower barrel button, and depress the *Pen* tip. To double click the left mouse button, position the mouse to the proper position, depress the upper barrel button, and depress the *Pen* tip. The Macintosh mouse behaves in a similar manner.

You may also double click the left mouse button by depressing the *Pen* tip twice. If you use this method, be sure to keep the mouse position stationary between clicks or it will be detected by your application software as two single clicks rather than one double click. Holding the *Pen* vertical to the *Tablet* while clicking will reduce the chance of the mouse moving between clicks.

The double click of the upper barrel button is set for medium speed, so you may need to adjust your mouse driver accordingly for it to work properly.

Left and right mouse clicks are also directly activated with the *Mouse Click* buttons (see *Mouse Click* section below). These *Mouse Clicks* operate independently of the selected *Tool* or Pad.

If the *Pen* should reach the edge of the *Writing Area* and the mouse still has not reached the edge of the image, simply move the *Pen* to the opposite side of the *Writing Area* and back, keeping the *Pen* in proximity while you move it.

***NOTE**: To ensure that the Microsoft compatible Mouse is correctly identified by your PC, the **Projector** must be powered-on before your PC is powered-on.*

***NOTE:** If you can adjust the mouse driver settings, we recommend a slow mouse speed and a medium speed double click with acceleration not selected.*

***NOTE:** If the Mouse Tool is selected when you switch a video Source, the Mouse Tool will automatically be de-selected. This is done to minimize the chance of accidentally activating the mouse while viewing a different video Source, for example, a VCR. The Mouse Tool is still available in this mode; however, you must re-select it to use it.*

Frame

Frame allows you to create a rectangular frame for diagramming or framing areas of interest. To create a frame, select the *Frame Tool* with the *Pen* tip, position the upper right-hand corner of the *Frame* symbol at a corner of the frame to be drawn, depress the *Pen* tip, draw a diagonal of the frame, and release the *Pen* tip. The frame is generated while the diagonal is being drawn. After the *Pen* tip is released the frame is displayed in the last selected *Color* and *Size*.

A previously drawn frame may be erased with a *Box*, *Large Eraser*, *Pencil Eraser*, *Erase* [Erase], or by shrinking it until it disappears. See Manipulating and Objects for information on moving and re-sizing a *Frame*.

Box

Box allows you to create rectangular objects, mini writing pads, hide video information, highlight video information, or create erasers of any size. To create a box, select the *Box Tool*, position the upper right-hand corner of the *Box* symbol at a corner of the box to be drawn, depress the *Pen* tip, draw a diagonal of the box, and release the *Pen* tip. The box is generated while the diagonal is being drawn. To highlight information, select the [HIGHLIGHT] *Color* before you draw the box. To create a box of any color, select the *Color* before drawing the box. To hide information, draw a box over the information you wish to hide in any color except the [HIGHLIGHT] *Color*. To erase any ***WritingPad*** information or erase any holes in *Notepad*, move a box over the area to be erased.

Any box may also be used as a mini writing pad. Once the box is created it can be moved or re-sized by activating a corner of the box (See Manipulating and Objects). To erase information written on a box, simply activate a box corner with the *Pen* as you would if you were going to move or re-size the box. A box may be erased by shrinking it until it disappears.

Manipulating and Objects

The *Frame* and *Box* *Tool*s create objects (and) that can be moved or re-sized. These operations are performed by grabbing a corner of a frame or box as described below. Any tool except *Mouse* may be selected.

To move a frame or box , position the current *Tool* symbol inside the lower left-hand corner or the upper right-hand corner of the object until the hand symbol appears. Depress the *Pen* tip, move the object to the desired location, and release the *Pen* tip.

To re-size a frame or box , position the *Tool* symbol inside the upper left-hand corner or the lower right-hand corner of the object until the re-size symbol appears. Depress the *Pen* tip and expand or shrink the object to the desired size by expanding or shrinking the diagonal. Release the *Pen* tip when the object is the desired size. Activating any corner will also cause any ***WritingPad***-generated data on the frame or box to be erased.

Up to eighteen (18) frame and box objects may be moved or re-sized. If more than eighteen 18 objects are created, only the first seventeen (17) and the last one may be manipulated.

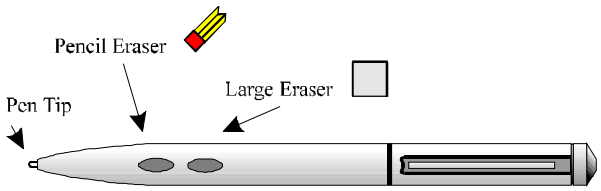
A frame or box drawn over previously generated ***WritingPad*** information will erase that information. Moving or expanding a box will destroy any ***WritingPad*** information it passes over. Erasing any corner of a frame or box will destroy the ability to move or re-size that frame or box . A frame or box may also be destroyed by shrinking it until it disappears.

Large Eraser

The *Large Eraser* is available as a *Tool* and conditionally available (see *Preference Menu*) on the upper barrel button of the *Pen*. When the *Large Eraser* is selected by either method, the *Tool* symbol will change to a and allow you to erase any ***WritingPad*** data that passes under while the *Pen* tip is depressed. When you are done erasing, select another *Tool*.

Upper Barrel Button

If *Pen* Barrel Buttons is *STD* in the *Preferences Menu*, depressing the upper *Pen* barrel button will temporarily switch the *Tool* to a *Large Eraser* and allow you to erase any ***WritingPad*** data that passes under the *Large Eraser* while the *Pen* tip is depressed. Release the *Pen* barrel button and the *Pen* tip will restore the last used *Tool*.



Pencil

The *Pencil* allows you to electronically write or draw in the last selected *Color* and *Size*. To select the pencil, depress the *Pen* tip on the *Pencil* *Tool*. To write or draw, position the *Pencil* tip to your starting point, depress the *Pen* tip, and begin writing or drawing while keeping the *Pen* tip depressed. To change the color or size, simply depress the *Pen* tip on the desired *Color* or *Size* button.

Mouse Clicks

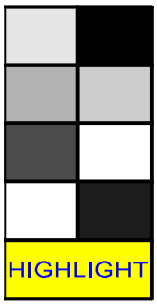
Once the mouse has been properly connected, the *Mouse Click* buttons directly activate the left and right mouse buttons regardless of the *Tool* selected. Ignore the *Right Mouse Click* if your computer mouse is a single button mouse.

Left Mouse Click

The *Left Mouse Click* button simulates the left mouse button of your personal computer mouse. To activate the left mouse button, momentarily depress the *Pen* tip on the *Left Mouse Click* button. To double click, depress the *Pen* tip twice on the *Left Mouse Click* button.

Right Mouse Click

The *Right Mouse Click* button simulates the right mouse button of your personal computer mouse. To activate the right mouse button, momentarily depress the *Pen* tip on the *Right Mouse Click* button. To double click, depress the *Pen* tip twice on the *Right Mouse Click* button.

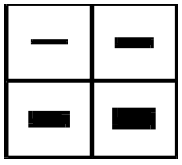


Colors

Eight (8) colors and highlight are available with a *Tool* or *Icon*. Touching a *Color* button selects that color for use with the selected *Tool* or *Icon* until another *Color* button is touched. Each *Pad* retains its last used *Color*; therefore, switching *Pads* will automatically restore the selected *Color*. The available colors include:

Cyan	*Magenta*	*Yellow*	*White*	
Blue	*Red*	*Green*	*Black*	*Highlight*

If you select HIGHLIGHT , any writing in *Videopad* will appear in the inverse color of the video color you write over and in *Notepad* an inverse hole will be cut in the paper to reveal the video behind it. The *Box* *Tool* with *Color* HIGHLIGHT is very useful for highlighting video information in the *Videopad* or the *Notepad*.



Sizes

Touching a *Size* button will select a line thickness for the *Frame* or *Pencil* *Tools*. Where appropriate, the size of the *Tool* symbol reflects the size selected. The size will remain selected until changed. Each *Pad* retains its last used size; therefore, switching *Pads* will automatically restore the *Size*.

Fine

Fine allows you to draw or erase a thin line (2 pixels plus an outline). To select *Fine*, depress the *Pen* tip on the *Fine* *Size*.

Medium

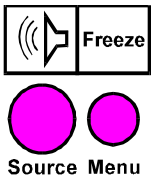
Medium allows you to draw or erase a medium line (3 pixels plus an outline). To select *Medium*, depress the *Pen* tip on the *Medium* *Size*.

Large

Large allows you to draw or erase a thick line (4 pixels plus an outline). To select *Large*, depress the *Pen* tip on the *Large* *Size*.

Bold

Bold allows you to draw or erase a bold line (6 pixels plus an outline). To select *Bold*, depress the *Pen* tip on the *Bold* *Size*.



Panel

The ***WritingPad*** *Panel* allows direct access to sound control, image freezing, video source switching, and ***Projector*** menu access.

Sound Control

The *Sound Control* button allows you to turn the sound on or off for the projected *Source*. If *Prompts* are enabled a message will appear indicating the current status of the sound. To toggle the sound off or on, depress the *Pen* tip on the button.

Freeze

The *Freeze* button allows you to freeze or unfreeze the projected image. To toggle *Freeze* off or on, depress the *Pen* tip on the button.

Source Selection

Up to six (6) video sources may be connected simultaneously to the ***Projector*** (PC or Macintosh on *RGB 1* and *RGB 2*, S-Video on *Video 1* and *Video 2*, composite video on *Video 1* and *Video 2*). The *Source* button allows you to sequentially switch between connected sources. If *Video 1* or *Video 2* has both a composite and S-Video connected, *Source* will select them individually.

Menu Selection

The ***WritingPad*** *Menu* button provides access to the *Preferences*, *Video*, *Information* and *Audio* menus. Refer to the *Menu* section of this *Owner's Manual* for information on each of these menus.

***NOTE**: The Menu may also be used to turn the **Projector** Lamp on or off. When the **Projector** Lamp is off, depressing the Pen on the Menu button will turn the Lamp on. When the **Projector** Lamp is on, depressing the Pen on the Menu button will bring up the Menu and the message "Press Tablet Erase To Power Down" will appear in red. To turn off the Lamp, depress the Pen on the Erase* Erase *button.*

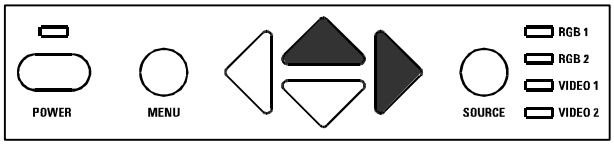
TROUBLESHOOTING

On the following pages is a list of problems and probable causes. If your problem can be identified from the list, check the probable causes for a solution. If you continue to have trouble resolving your problem, contact our customer support group at the number displayed on the ***Projector*** at power-up or the number on the back of this *Owner's Manual*.

If problems persist, you may do a factory reset of the ***Projector*** by performing the following procedure.

CAUTION: *Factory reset will change all menu settings to original factory settings. Any Preferences, Video, Audio or Information Menu changes you have made will be lost.*

1. Power-down the ***Projector*** from the *Control Panel* or the *Remote Control* and wait for the fan to power off.



CAUTION: DO NOT REMOVE POWER CABLE WHEN THE PROJECTOR LIGHT IS ON AS THIS MAY DAMAGE THE PROJECTOR LAMP!

2. Remove the power cable from the side of the ***Projector***.
3. On the ***Projector*** keypad, depress the ✣ and ✣ keys simultaneously ✣.
4. While holding both keys simultaneously ✣, plug the power cable back into the ***Projector***.
5. Continue to hold both keys ✣ until the ***Projector*** flashes the LEDs on the *Control Panel*.
6. The original factory settings have now been restored.

Lamp will not light

- The power cable is not connected or power source is off.
- If the *Power LED* is repeatedly flashing red three times, the *Lamp* has been exhausted and must be replaced. See the *Lamp* replacement procedure in this *Operator's Manual*. If the *Lamp* has just been replaced, try resetting the *Lamp* hour counter again (see *Lamp Replacement* procedure in *the Care and Maintenance* section of this *Operator's Manual*).
- If the *Power LED* is repeatedly flashing red five times, an internal fan has failed. Contact your local dealer for service.
- If the *Power LED* is repeatedly flashing red seven times, the ***Projector*** has overheated. Contact your local dealer for service.
- Make sure the *Lamp* door is seated.

Fan failure message

- The ***Projector*** constantly checks for proper operation of the fan. If a fan failure occurs, the fan failure message will appear. To clear a fan failure message condition, depress the *Source* key on the ***Projector***. To avoid damage to the LCD or the *Lamp*, discontinue the use of the ***Projector*** until the fan can be serviced. Check for objects stuck in the fan.

No image on the Projector

- ***Projector*** power cable not connected.
- AC outlet defective.
- Computer or video device power not on.
- Video cable not secure or cable is defective.
- No video signal present.
- Incompatible video signal.
- *Notepad* selected.

No image on monitor

- Incompatible video signal.
- Computer or monitor video cable not secure or cable is defective.
- Monitor power off or disconnected.
- ***Projector*** power supply not connected.
- No video signal from computer.
- Computer power off or disconnected.
- Contrast or brightness is not adjusted properly on the monitor.

Flickering or unstable image

- Adjust *Focus* setting (*Video Menu*).
- Computer video cable not secure or cable is defective.
- Incompatible video signal.

Poor color or no color

- Try factory settings. Select *Reset* (yes) from the *Video Menu*.
- Adjust *Color* setting (*Video Menu*).
- Adjust *Tint* setting (*Video Menu*).
- Adjust *Contrast* setting (*Video Menu*).
- Adjust *Focus* setting (*Video Menu*).
- Wrong *Inverse* mode. Change Inverse state (*Video Menu*).
- Video from computer is monochrome.
- Computer video cable not secure or cable is defective.
- Adjust room lighting.

Split image or partial image

- Image alignment needed; use the left, right, up and down keys the *Information Menu* selected.
- Incompatible video signal from computer.

Visible bright or dark spots

- An inactive subpixel may appear as a bright or dark spot on the display. The ***Projector*** may contain as many as 20 inactive subpixels or 0.002% of a total of 921,600 subpixels.

Source LED is red

- Video signal has been lost. Check that the video source is still operating and video cable is secure.

No audio from internal speakers

- Enable *Sound* (*Audio Menu, Remote Control* or ***Annotation*** device).
- Select *Int Audio* from the *Audio Menu* (*Audio Menu, Remote Control* or ***Annotation*** device).
- Volume is too low. Adjust volume with *Audio Menu* or *Remote Control*.
- ***Projector*** power cable not connected.
- AC outlet defective.
- Audio source turned off.
- Audio source not connected to the selected video source.

No audio from external speakers

- Enable *Sound* (*Audio Menu, Remote Control* or ***Annotation*** device).
- Select *Ext Audio* from the *Audio Menu* (*Audio Menu, Remote Control* or ***Annotation*** device).
- Volume is too low. Adjust volume with external amplifier, *Remote Control* or *Audio Menu*.
- External speakers not connected or not adjusted properly.
- ***Projector*** power cable not connected.
- AC outlet defective.
- Audio source turned off.
- Audio source not connected to the selected video source.
- *Audio Out* cable not connected.

Mouse not working

- Computer was powered-on before the ***Projector***.
- *Mouse* cable not installed (*Mouse connector* to the serial port of your computer).
- *Mouse* software incompatible or not installed.
- Standard mouse is still connected to the computer mouse port.
- Wrong mouse type selected in the *Preference Menu*.

CARE AND MAINTENANCE

Storage and Transportation

Store and transport the system at temperatures between 0° and 140°F (-17° to 60°C). Avoid storage in automobiles during seasonal temperature extremes. Automobile interior temperatures can exceed 160°F (71°C) in summer and drop to -40°F (-40°C) in winter.

If the ***Projector*** has been exposed to extremely hot, cold or humid conditions, allow it to stand at room temperature for at least 30 minutes before use. Since the ***Projector*** contains several pieces of glass, avoid jarring impacts. When traveling, the ***Projector*** should be checked as baggage only when packed in its original shipping container.

Cleaning & Handling

The external glass of the ***Projector*** may be cleaned with a lint-free nonabrasive cloth and a glass cleaner. The ***Projector*** and the ***Annotation*** device may be cleaned with a lint-free nonabrasive cloth using water and a mild detergent. Never use a hydrocarbon cleaner such as acetone, or an abrasive cloth. Be sure to unplug any cables from the ***Projector***, disconnect its power source, and disconnect the ***Annotation*** device from the ***Projector*** before cleaning.

Avoid sharply banging or dropping the ***Projector*** and the ***Annotation*** *Tablet* and *Pen*, and never immerse them in any fluid.

Never place the ***WritingPad*** *Pen* near your computer diskettes or other magnetic storage devices as the *Pen* produces an electromagnetic field that could erase information.

IMPORTANT NOTE: *To conserve power, the* ***WritingPad*** *Pen will automatically shut down if the Pen tip or barrel buttons have not been used for more than a minute. To awaken the Pen, simply press any barrel button or the Pen tip. When storing the Pen, ensure that the Pen tip and barrel buttons are not depressed in order to avoid an unnecessary drain on the batteries. If the Pen is placed in a pencil holder, be sure that the Pen tip is up. If the Pen is placed in your pocket, be sure the Pen clip is adjusted so that the Pen tip does not reach the bottom of your pocket.*

Service Information

The system is designed for long, dependable service. However, should your equipment fail, contact us at the number displayed on the ***Projector*** when it is first powered on or at the number printed on the back cover of this *Owner's Manual*. When returning equipment for service, be sure to use its original shipping container and insure the shipment against loss or damage due to shipping.

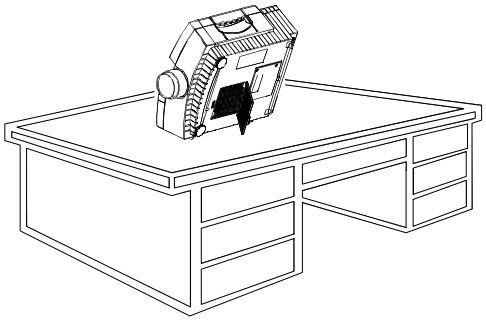
Air Filter, Lens, and Projector Cleaning

To clean or service the ***Projector***, turn off the ***Projector*** *Lamp*. After the fan stops, remove the all cables.

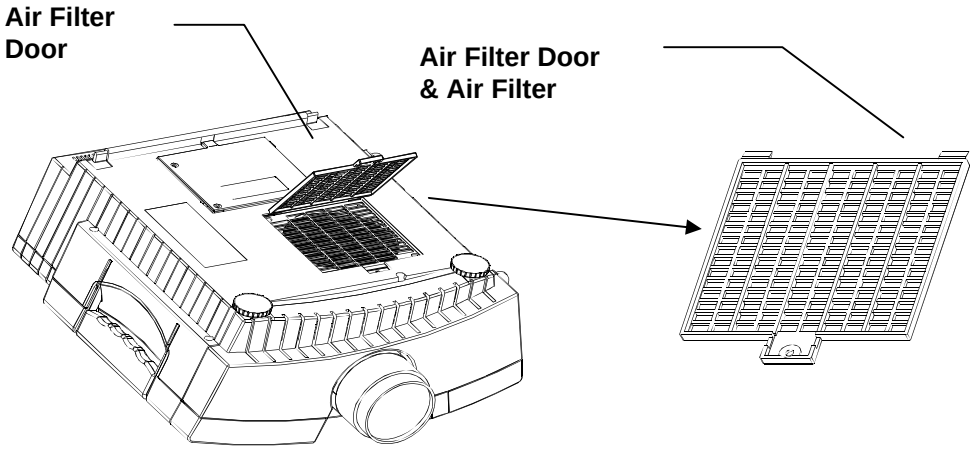
To clean the ***Projector*** or the *Lens,* use a lint-free non-abrasive cloth.

To clean the *Air Filter*, lift the ***Projector*** by its handle and carefully place it on its side on a firm surface. Using a screwdriver, carefully remove the *Air Filter Door* and the *Air Filter.* Return the ***Projector*** to a flat position. Remove the *Air Filter* from the *Air Filter Door* and remove the dust from the *Air Filter* with a vacuum cleaner.

IMPORTANT: *Turning the Projector on its side, eliminates the chance of accidentally releasing debris into the Lamp chamber, which can cause dust to reach the lenses and LCDs.*



Reinstall the *Air Filter* and secure the *Filter Door*.



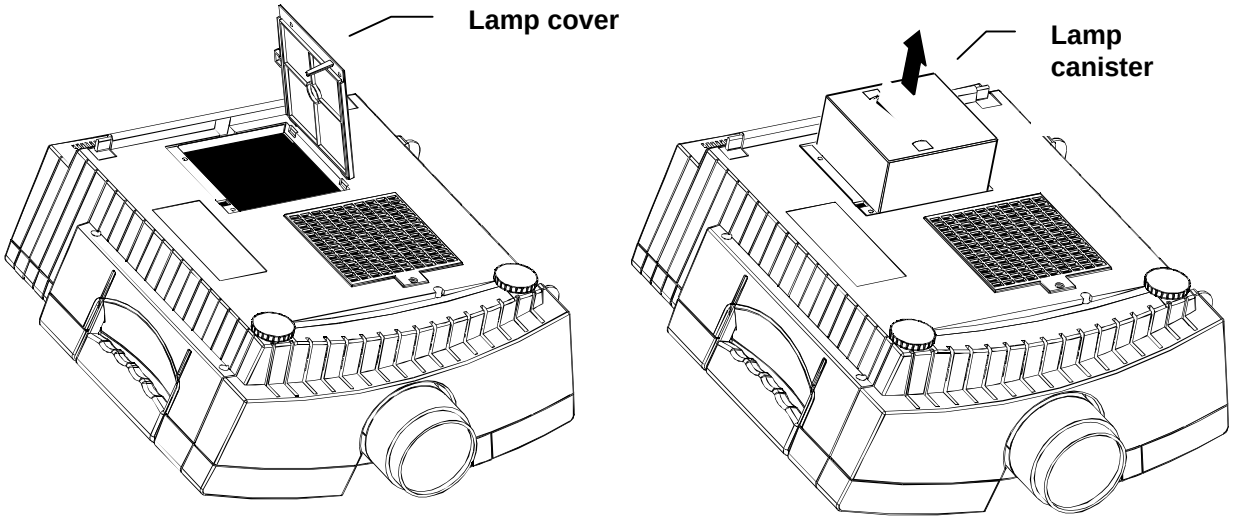
Lamp Replacement

CAUTION: *The Lamp is made of glass and is very fragile. Do not touch the Lamp with your bare hands and do not jolt or damage it. Do not use an exhausted Lamp as it may burst and cause fire, injuries, or damage to the* ***Projector****. If a Lamp bursts, pull out the power plug and ask your dealer to replace the Lamp. Fragments of glass may cause injury or damage the* ***Projector****.*

The *Lamp* has a life of 2,000 hours. Upon reaching 2,000 hours, a message will appear each time the unit is turned on that displays the remaining hours before the unit will shut down and advises you to replace the *Lamp*. This message will disappear after a few seconds or when you depress any key of the *Control Panel, Remote Control* or ***Annotation*** device. If the remaining *Lamp* hours goes to zero, the ***Projector*** will shut down and not restart, to protect the *Lamp* from bursting.

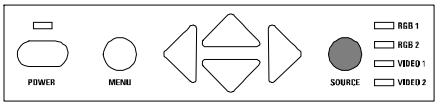
CAUTION*: When replacing the Lamp, if the* ***Projector*** *has been operating, allow the Lamp to cool for an hour before attempting to remove the Lamp.*

To replace the *Lamp*, turn off the ***Projector*** and wait until the cooling fan stops. Remove all cables. Before proceeding, it is best to allow the *Lamp* to completely cool as noted above. On a mat or other protected surface, gently turn the ***Projector*** over and loosen the two retaining screws of the *Lamp* cover. Open the cover.



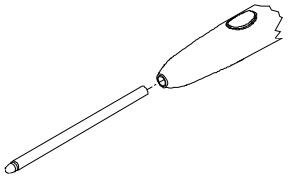
When the *Lamp* canister is cool, loosen the two *Lamp* canister screws, lift the metal lever and extract the *Lamp* canister by pulling straight up. Replace the *Lamp* canister with the new *Lamp* canister. Tighten the lamp canister screws. Discard the old *Lamp* canister. Secure the *Lamp* door and return the ***Projector*** to an upright position.

IMPORTANT NOTE: *After installing the new Lamp, the Lamp hour counter must be reset for the Lamp to operate properly. To reset the Lamp hour counter, insert the power plug while simultaneously holding the Source key down until the Source LEDs turn on and then off.*



Replacing the WritingPad Pen Tip

If you purchased the ***Annotation*** option and the stylus of the *Pen* becomes worn, it may be replaced. To replace the *Pen* tip, grasp the tip and pull straight out as shown to the right. Insert the new tip and press firmly into place. Contact your sales representative or call the number that is displayed on the ***Projector*** at power-up for information on *Pen* tips.



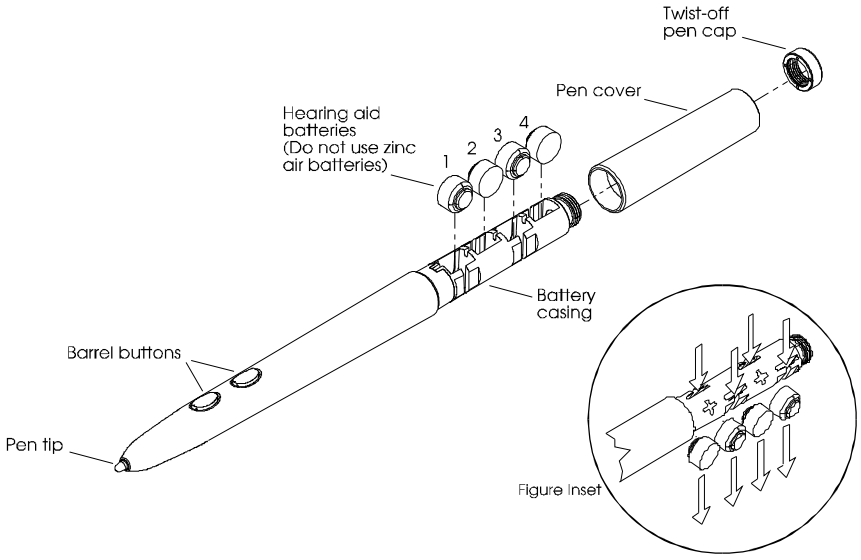
Replacing the WritingPad Pen Batteries

The ***WritingPad*** *Pen* is powered with batteries that should provide about one year of service before replacement is necessary. The batteries used are standard products that can be purchased at any store that sells calculators, cameras or watches. The correct battery type is a 393 silver oxide battery. DO NOT USE ZINC AIR BATTERIES, AS THEY WILL CORRODE THE PEN ELECTRONICS. The *Pen* is designed to operate on two or four batteries. You can use all four batteries at one time for longer battery life or you can choose to use two of the batteries and keep the remaining two as spares. The spare batteries can either be removed or stored in the battery casing with the polarities reversed (+ to - and - to +). Reversing any battery creates an open circuit and deactivates the battery pair (i.e., batteries 1 and 2 or 3 and 4). The average battery life is 750 to 1,000 hours using two pen batteries and 1,500 to 2,000 hours using four pen batteries. To replace the *Pen* batteries, perform the following:

- Unscrew the *Pen* cap. Hold the *Pen* from the bottom and gently slide off the *Pen* cover to expose the batteries.

- Remove the old batteries by pushing a thin, pointed object through the open slot on the bottom of the battery casing as shown.

- If you wish to use four batteries, position the batteries as they are shown above.



- If you wish to use two batteries, you must position the batteries in slots 1 and 2 or in slots 3 and 4 then remove or reverse the remaining battery pair.

- Replace the *Pen* cover and screw the *Pen* cap onto the *Pen*.

Monitor Interference

If you are experiencing monitor interference with your ***WritingPad*** *Tablet*, you can reduce the interference by changing the frequency your *Pen* uses.

To change the *Pen* frequency, press both side buttons and the *Pen* tip simultaneously and hold for approximately three seconds.

To return to the default frequency, repeat the above process. When you replace the *Pen* batteries, the *Pen* is automatically reset to the default frequency.

ACCESSORIES

Item	Model	Description
WritingPad	1260	The electronic *Tablet* and *Pen* writing accessory.
PenPal	1244	Electronic *Tablet* and *Pen* writing accessory.
***Tablet* Extension Cable**	1903	25-foot extension cable for the ***WritingPad*** *Tablet*.
Mac *Mouse Adapter*	1907	An adapter for using the ***WritingPad*** as a Macintosh mouse.
Soft Carrying Case	1650	Soft carrying case for ***Projector***, ***Annotation*** device, and accessories
ATA Carrying Case	1614	Airline approved hard carrying case for ***Projector***, ***Annotation*** device, and accessories
Flush Ceiling Mount	1721	Attaches ***Projector*** flush with ceiling
Variable Ceiling Mount	1732	Attaches ***Projector*** 24 inches to 46 inches below ceiling (variable)
Fixed Extension Mount	1716	Attaches ***Projector*** at fixed distance below ceiling (customer-supplied ASA pipe)
RS232 Projector Control Kit	1358	Cable and documentation

Aurora S500

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